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MEDITERRANEAN FRUIT FLY ERADICATION PROGRAM

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Mediterranean Fruit Fly Eradication...

HEARING

BEFORE THE

SUBCOMMITTEE ON DEPARTMENT OPERATIONS
AND NUTRITION

OF THE

COMMITTEE ON AGRICULTURE
HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRD CONGRESS

SECOND SESSION

MAY 5, 1994

Serial No. 103-66



NOV 15 1994

Printed for the use of the Committee on Agriculture

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CONTENTS

	Page
Calvert, Hon. Ken, a Representative in Congress from the State of California, opening statement	2
Smith, Hon. Robert F. (Bob), a Representative in Congress from the State of Oregon, prepared statement	36
Stenholm, Hon. Charles W., a Representative in Congress from the State of Texas, opening statement	1

WITNESSES

Batkin, Ted, manager, California Citrus Research Board, on behalf of the California Agriculture Issues Forum	77
Prepared statement	177
Chrisman, Mike, under secretary, California Department of Food and Agriculture	42
Prepared statement	109
Jensen, Patricia, Acting Assistant Secretary, Marketing and Inspection Services, U.S. Department of Agriculture	37
Prepared statement	87
Kimm, Victor J., Deputy Assistant Administrator, Office of Prevention, Pesticides, and Toxic Substances, U.S. Environmental Protection Agency	40
Prepared statement	97
McKellar, Gordon Bruce, director, research and information, Citizens Against Urban Aerial Spraying	61
Prepared statement	122
Nelsen, Joel, president, California Citrus Mutual, and chairman, Alliance for Food and Fiber	75
Prepared statement	169
Perkins, Robert Eli (Bob), executive manager, Riverside County Farm Bureau, Inc	80
Prepared statement	181
Polcyn, David M., professor, department of biology, California State University-Riverside	63
Prepared statement	138
Ramsey, William, chairman, Western Growers Association	73
Prepared statement	162
Shulock, Charles M., assistant secretary, California Environmental Protection Agency	44
Prepared statement	114
Workman, William P., acting city manager, city of Corona, Corona, CA	59
Prepared statement	118

SUBMITTED MATERIAL

Affleck, Mark, president, California Avocado Commission, statement	198
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MEDITERRANEAN FRUIT FLY ERADICATION PROGRAM

THURSDAY, MAY 5, 1994

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON DEPARTMENT
OPERATIONS AND NUTRITION,
COMMITTEE ON AGRICULTURE,
Washington, DC.

The subcommittee met, pursuant to call, at 1 p.m., in room 1302, Longworth House Office Building, Hon. Charles W. Stenholm (chairman of the subcommittee) presiding.

Present: Representatives Dooley, McKinney, Smith of Oregon, Alard, and Canady.

Also present: Representative E (Kika) de la Graza, chairman of the committee and Representative Calvert.

Staff present: Gary R. Mitchell, minority staff director; Dale Moore, minority legislative coordinator; Glenda L. Temple, clerk; Stan Ray, James A. Davis, Curt Mann, and Pete Thomson.

OPENING STATEMENT OF HON. CHARLES W. STENHOLM, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF TEXAS

Mr. STENHOLM. The Subcommittee on Department Operations and Nutrition is called to order.

We look forward to the opportunity to review the status of USDA's eradication program currently underway to fight the Mediterranean fruit fly in California.

This subcommittee has been made aware of the concerns raised by local citizens and others regarding the methods employed and the process by which this program has been administered. It is our intent that this hearing provide a forum for rational examination of this subject so that the legitimate concerns and questions can be addressed, and in the words of my colleague from Kansas who is not here at the moment, but the light can be shown into darkness.

Our focus this afternoon, then, will be on the facts surrounding the handling of these efforts by both the Federal Government and the State of California: The effectiveness or ineffectiveness of the various eradication methods, their importance to food production and the process by which they have been implemented.

I recall that we had a hearing on this subject back in October of 1981, when the agricultural industry was experiencing significant losses due to a medfly infestation, which was contained. But the interest of the members of the subcommittee at that time was, " * * * to evaluate and reassess the mechanisms for dealing with

such emergencies and begin looking to new approaches to ensure that the agricultural industry remains strong.”

I don't know that the interests of this subcommittee—over 12 years later—are any different. Only through a frank and thorough appraisal, however, can confidence be restored and the economic viability of production agriculture be maintained.

With that, I thank all of the witnesses for being here today and look forward to your testimony.

Mr. Dooley.

Mr. DOOLEY. Thank you, Mr. Chairman. I have no prepared opening statement. I think that we are all here in the spirit of trying to understand the situation, trying to find the method by which we can ensure that the \$18 billion agricultural economy in California will not be jeopardized by the infestation of the medfly, and at the same time being very cognizant that we all have to be very concerned with ensuring that any eradication effort protects the health of all of the citizens of California.

Hopefully, listening to the testimony from the witnesses today, who are representing diverse viewpoints, we will all come away with greater insight and greater knowledge on whether or not the existing practices are achieving those objectives or perhaps there has to be some modification.

Mr. STENHOLM. Mr. Canady.

Mr. CANADY. Thank you, Mr. Chairman. I have no prepared statement. I would just like to say I appreciate you conducting this hearing and I appreciate each of the witnesses being here. Those of us in Florida also have a concern about this issue and we look forward to working on and hearing the testimony today.

Thank you.

Mr. STENHOLM. Mr. Calvert.

OPENING STATEMENT OF HON. KEN CALVERT, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. CALVERT. Thank you, Mr. Chairman. I am most appreciative of your help in setting up this hearing. It is my hope that this subcommittee will gain valuable information concerning some of the problems related to the medfly and to urban aerial spraying of malathion to combat this fly. I hope that by working together, all of the participants will be able to be more effective tools to eliminate this dangerous pest.

Let me begin by giving you and other members of the subcommittee a little background about the reasons I asked for the hearing. In January, the California Department of Food and Agriculture announced that a female, mated Mediterranean fruit fly had been found on December 17 in my hometown, the city of Corona, and it could be necessary to begin the aerial spraying of the pesticide malathion on portions of the cities of both Corona and adjoining Norco. Because the decision to spray came so quickly after the female fly was found, local public officials had little notification of the decision. As a result, many residents of the two cities felt completely left out of the process and became very concerned about the side effects of the spraying.

I am a very strong supporter of California agriculture, as are the vast majority of my constituents. We recognize that agriculture is

the backbone of our State's economy, and we want to do whatever is necessary to protect this critically important industry.

But I was bothered by the lack of local input into the process by which the decision to use aerial spraying was made and by the lack of consistent and reliable information which may have alleviated the public's apprehensions about the spraying.

In January, I approached the chairman and requested this subcommittee hold a hearing to explore the whole question of urban aerial spraying of malathion and specifically wanted to find out why the USDA believes spraying is the best method available to stop the medfly; what alternatives, if any, are available; why is it OK to spray the homes of people, but not OK to spray the homes of the Stephen's kangaroo rat, which is an endangered species; and what, if anything, the Congress can do to help the USDA eradicate the medfly so that future spraying might not be necessary.

As far as the Stephen's kangaroo rat is concerned, I am afraid that tells us more about the Endangered Species Act than malathion. Because of this hearing, which had to be postponed twice, I have sent two letters to my constituents in Corona and Norco and received thousands of responses which you can see here. Not all of the people are opposed to the spraying. Many express their support for agriculture, but almost all are nervous and some angry.

I would like to just read a couple of excerpts from two letters to give you a divergent point of view. One letter said, "As a mother of two small children, a pet owner and a human being, I am extremely concerned about the malathion spraying that we are being subjected to and want that spraying to be stopped."

The second letter, an excerpt, "supports the use of spraying with malathion to combat the medfly. For me the big mistake was not to spray the endangered species, and certainly caused the perception in our area."

On another letter I asked the question, if urban aerial spraying of malathion is found to be the only way to protect California agricultural products from the Mediterranean fruit fly, do you believe its benefits outweigh its costs? Sixty percent answered no. Now, certainly that is to be expected. Those who bothered to respond to the survey would tend to be most opposed to the spraying. But clearly, this level of intensity of opposition is intolerable given agriculture's crucial role in our economy.

I believe it reflects a failure of educational outreach and a disbelief of our citizens that all alternatives were faithfully considered. We can and must do better.

Let me make it clear, not all of those people are concerned about health issues. Some of them are upset about side effects of spraying such as one constituent who sent a letter in by Federal Express so it would get to me before this hearing. She is upset because the paint is coming off of her car.

My purpose is to see if we can get some answers to questions that my constituents have been asking me and to see if we can find a way to help the agricultural interests keep this pest out of California so we won't have to go through the trouble and expense of spraying. I think people need to understand exactly what the risks and benefits of spraying are so that they can better compare the

two. In some ways, this delay we have experienced has been valuable.

During the last few weeks, key members of our community, such as Bob Perkins and Bruce McKeller, who are with us today, have come together with local officials to forge a positive agenda. I support their agenda and have these specific goals for this hearing: First, I have asked Governor Wilson to halt the current sprayings in Corona and Norco after the eighth application, if at all possible, and we hope to hear a response from this today.

Second, I hope we can agree to authorize an APHIS-led 30-day report on the Corona-Norco experience that can be used to improve the decisionmaking process, education, and exclusionary efforts, research and notification procedures for the future.

And third, I hope we can get a commitment for enhanced exclusionary efforts from APHIS.

Fourth, I would hope we can get support for university-based research center on medfly and other exotic pests.

And fifth, I hope we can reach an agreement to conduct an immediate outreach educational program in our spray area regarding the consequences of illegally shipped fruit.

In conclusion, Chairman Stenholm, let me again thank you and the ranking minority member, Mr. Smith, for calling this hearing. I believe it is virtually important that urban residents and all interests gain a better understanding of each other's problems and that we work together to get rid of the Mediterranean fruit fly once and for all.

Thank you.

[Material submitted for the record follows; the hearing continues on page 35.]



OFFICE OF CITY COUNCIL

815 WEST SIXTH STREET (P.O. BOX 940), CORONA, CALIFORNIA 91718-0090

April 25, 1994

Honorable Chairman and Members of the
Subcommittee on Department Operations and Nutrition
Committee on Agriculture
Room 1301, Longworth Building
Washington, DC 20515

**Re: HEARING ON THE STATUS OF THE MEDFLY ERADICATION
PROGRAM**

Dear Chairman Stenholm and Members:

Aerial malathion has been sprayed over the City of Corona every two weeks since February 15, 1994. The City of Corona has grave concerns about (1) the effectiveness of the State's Medfly eradication program; and (2) the fact that the Medfly eradication program appears to be driven more by political concerns than by protection of human health. For these reasons, the City of Corona requests that the federal government immediately intervene and stop the aerial spraying of malathion.

THE MEDFLY ERADICATION PROGRAM IS NOT EFFECTIVE

Through discovery conducted by the City of Corona in its attempt to enjoin aerial malathion spraying over the City, Corona has discovered that the effectiveness of the State's Medfly eradication program is extremely questionable. For example, from the testimony of the State's own primary entomologist, it is clear that the Medfly eradication program is not based on established clear scientific principles, but rather upon the political and economic need to declare a particular infestation eradicated, whether or not it actually has been.

For example, one member of the Medfly Science Advisory Panel, Dr. James Carey, believes, and has published an article on the subject in Science magazine, that the Medfly has become endemic to California. Notwithstanding, the State continues to issue Declarations of Eradication.

Honorable Chairman and Members
Subcommittee on Department Operations and Nutrition
April 29, 1994
Page 2

It is difficult to see how the State can justify such actions when Dr. Robert Dowell, the Primary Entomologist for the California Department of Food and Agriculture, testified that the State cannot even calculate how confident it is that the Medfly has been eradicated. Thus, when Dr. Dowell was asked: "When you make the statement that the Medfly was eradicated, how confident are you that that is actually the case?" "In a percentage basis, how confident are you?" Dr. Dowell replied: "We never put a percentage on." He was asked "Can you do that here today? 51 percent? ..." Dr. Dowell replied "I would be reticent." (Deposition of Robert V. Dowell, Ph.D. dated March 7, 8, 1994 ("Dowell Deposition") at p. 103.)

Dr. Dowell testified that the State does "not have a model with a science confidence interval to Medfly eradication at all of any level." He was asked "And is it possible to develop or to assign any degree, in terms of percentage of confidence, that a Medfly population has been eradicated from a given area." Dr. Dowell responded: "Using our model, it would be difficult, if not impossible." (Dowell Deposition at pp. 125-126.)

This is apparently true because of the trapping methodology employed by the State. For example, Dr. Dowell stated at "about 10 traps per square mile, which is a detection level," the CDFA expects to catch about "four percent of the male populations" of Medflies "over 'their lifetime,' which would be a three- to four-week period." (Dowell Deposition at p. 198.) He testified that the CDFA has a capture efficiency of approximately .5 percent, and therefore a capture inefficiency of 99.5 percent. (Dowell Deposition at p. 202.) Thus, the State is not even able to place any numerical value on the probability of catching a Medfly using its current method of trapping.

And finally, when asked how the State determined whether a Medfly was established, Dr. Dowell testified to the State's circular reasoning that as long as the State was attempting to eradicate the Medfly, the Medfly would not be considered to be established. (Dowell Deposition at p. 246.)

Corona's real concern is that the State, via its current Medfly eradication program, is posturing for its trading partners without any real regard for the effectiveness of its program in eradicating the Medfly or the health effects of its program on humans. The end result is that more and more pesticides are used, and more people are directly exposed to pesticides. The State is gambling with our agricultural resources rather than truly trying to protect them.

Honorable Chairman and Members
Subcommittee on Department Operations and Nutrition
April 29, 1994
Page 3

THE MEDFLY ERADICATION PROGRAM IS DRIVEN BY POLITICAL CONCERNS
WITH LITTLE REGARD FOR HUMAN HEALTH

Notwithstanding that the State's eradication program has little verifiable effectiveness, the State has aerially sprayed malathion on Corona on six occasions. This is in spite of the conclusions by the California Department of Health Services ("DHS") in a February 1991 report entitled "Health Risk Assessment of Aerial Application of Malathion-Bait" that

"DHS believes that a subpopulation of potentially sensitive individuals such as children, the aged, individuals with certain pre-existing diseases, and the homeless who receive upper-bound exposures (and in some cases average exposures) to malathion may be at risk of exhibiting some adverse health effects from aerial malathion-bait application."

That same report stated:

"Given the findings of this risk assessment, DHS recommends that THE USE OF AERIAL MALATHION-BAIT APPLICATIONS IN URBAN AREAS FOR AGRICULTURAL PEST ERADICATION BE RECONSIDERED. ... Although the theoretical adverse health risks from exposure to aerially applied malathion-bait in the general population may be reduced by following some simple precautions, potential exposures in more sensitive subpopulations may not be avoided as easily. DHS recognizes the public concerns related to the aerial application of pesticides such as malathion, and the public demand for the development as use of pest control methods that are less intrusive and alarming. Therefore, DHS also recommends that CDFA develop, and when possible, utilize available non-pesticide or selective pesticide (e.g., natural attractants) alternatives to aerial application of pesticides." (Emphasis added.)

Similarly, in an internal memorandum from the United States Environmental Protection Agency ("EPA"), the EPA made the following comments with regard to the DHS risk assessment report:

"On the question of ocular effects, DHS concluded that evidence is insufficient to classify malathion as causing irreversible severe eye damage as reported for certain residents of Japan following

Honorable Chairman and Members
Subcommittee on Department Operations and Nutrition
April 29, 1994
Page 4

exposure to 'numerous and high levels of organophosphate insecticides.' 'It is not appropriate, therefore, to derive an REL for ocular effects.' [Citation.] DHS does however support further testing. An HED Peer Review of organophosphate induced eye effects concluded that combined epidemiologic studies and toxicologic data indicate the potential for organophosphates to produce a wide range of ophthalmologic effects. As a result of the peer review, all organophosphate, including malathion, will undergo required testing for ocular effects.

"Toxicology] Branch advises, based upon the organophosphate/ocular effects review, that malathion was one of the principal organophosphate pesticides reportedly used in Japan when the ocular effects were identified and published in the Japanese literature. As described in that literature certainly one mode of application of malathion was via helicopter. To the extent that organophosphate ocular toxicity actually occurred in Japan as identified in that literature, it is not possible to conclude that the effects were limited to any particular organophosphate among those principally in use."

Moreover, the residents of Corona are afraid that they are being used as a "testing ground" to study the long term effects of aerial malathion spraying. This concern was expressed to the EPA in correspondence from Congressman George E. Brown, Jr. dated November 26, 1993. Congressman Brown wrote:

"It is my understanding that as a condition of registration, the Environmental Protection Agency (EPA) is requiring human biomonitoring studies of spray area residents and that USDA will be conducting these studies in coming months. This issue has raised concerns in many areas of Southern California. As you are aware, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) has carefully proscribed restriction on the use of humans in pesticide testing. There also need to be some very sensitive protocols developed if this testing is to take place."

Months after Congressman Brown's correspondence, in early March of this year, Primary State Entomologist Dr. Robert Dowell testified:

Honorable Chairman and Members
Subcommittee on Department Operations and Nutrition
April 29, 1994
Page 5

"There was correspondence from the U.S. Environmental Protection Agency to the U.S.D.A., requesting a whole body exposure study be done the next time there was an aerial application of malathion and bait. This information was to be used in support of the registration of malathion and bait applied from the air in the state of Florida for fruit fly eradication.

"The U.S.D.A. sent back a letter saying that basically they would do that and requested a protocol from the U.S.E.P.A. The U.S.D.A. also in that letter suggested that California would be a site where this could be done as Mediterranean Fruit Fly and other fruit flies do invade the State of California and aerial application of malathion bait has been used in the past in the state.

"At this point, it is my understanding that no protocol has in fact been put forward by the U.S.E.P.A., which has led to rampant speculation within the department as to what might be done. Nobody has any idea. ..." (pp. 67-68.)

The government has, in the past, engaged in immoral conduct in the name of "testing" as evidenced by the Tuskegee syphilis studies and the recently exposed radiation exposure studies. It is unconscionable, and our lawyers say unconstitutional, for the government to allow the City of Corona to be used as the petri dish for the study of the human health effects of malathion to benefit the rest of the country.

CONCLUSION

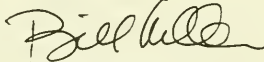
It is inconceivable in light of the above facts that the federal government is cooperating with state governments to aerielly spray malathion on urban populations anywhere in the United States.

The federal government can call the shots on state administration of malathion. Dr. Islam Siddiqui, Assistant Director of the CDFA, testified that in approximately 1980, when a Medfly infestation was found in San Jose, Santa Clara County, then Governor Jerry Brown refused to allow aerial spraying of malathion. Governor Brown's approach was not acceptable to the United States Department of Agriculture ("USDA"). The USDA "ordered that either aerial sprays be used or they will quarantine all exports of not only international exports but also interstate exports of fruit from California. (Deposition of Islam Siddiqui dated March 25, 1994, at pp. 35-36.) Based on the USDA's order, the Governor ordered aerial spraying in the San Jose and Santa Clara area. (Id.)

Honorable Chairman and Members
Subcommittee on Department Operations and Nutrition
April 29, 1994
Page 6

The federal government can also use its power to stop aerial malathion spraying over urban populations, especially when the State program is, as shown above, ineffective at best, and at worst a mere show for the State's trading partners. The residents of the City of Corona respectfully request that the federal government use its power and stop aerial spraying of malathion so that Corona citizens are not sacrificed for the State's program.

Sincerely,

A handwritten signature in cursive script, appearing to read "Bill Miller".

Bill Miller, Mayor
City of Corona

cc: Honorable City Council

Chronology - Events Leading to Aerial Treatment In Corona

Emergency Programs Manual: Mediterranean Fruit Fly (Medfly) Action Plan:

- 8/18/82 : Cooperative development with States of guidelines and actions for the eradication of Medfly infestations.

Medfly Cooperative Eradication Program Environmental Impact Statement (EIS):

- 6/22/90 - 11/9/90: Formal scoping for public written comments.
- 9/18/90 : Public meeting for scoping in Los Angeles, CA.
- 11/26/93 : Notice of Availability of final EIS published in Federal Register.
- 12/29/93 : Record of Decision (ROD) signed by APHIS Acting Administrator.

Area-wide Medfly Eradication Strategy:

- 10/4-8/93 : International team (IT) of fruit fly scientists review the eradication program in the Los Angeles area.
- 11/12/93 : IT's findings and recommendations submitted to APHIS.
- 12/2/93 : APHIS and CDFA meet in Sacramento to develop a workplan based on recommendations of team.
- 1/3/94 : Final revision of workplan completed and circulated through USDA and CDFA.
- 1/8/94 : Governor of California approves workplan.
- 1/12/94 : Secretary of Agriculture approves workplan and signs the FONSI/ROD for the Area-wide Program Site-Specific Environmental Assessment.

Decision to conduct aerial treatments in the Corona area of Riverside County:

- 12/17/93 : A mated female Medfly is detected in the Corona area.
- 1/3/94 - 1/13/94 : USDA and the State of California discuss options for control of Medfly in the Corona area.
- 1/12/94 : Riverside County Board of Supervisors notified by conference call.
- 1/13/94 : Regional Director signs the FONSI/ROD for the Site-Specific Environmental Assessment for the Corona area of Riverside County. APHIS and CDFA officials meet with the Mayors of Corona and Norco. Press Conference in Corona is held to announce aerial treatments.
- 1/18/94 : Public meeting in Corona to present program and answer questions.
- 1/19/94 : Door to door notification of the residents in the affected area begins.
- 1/24/94 : First treatment in Corona postponed to allow for additional public notification.
- 2/15/94 : First treatment in Corona completed.



CITY of NORCO

CITY HALL 2870 CLARK AVENUE ● (909) 735-3900, FAX (909) 270-5622 ● P.O. BOX 428, NORCO, CA 91760

April 22, 1994
94CM19

TESTIMONY BEFORE HOUSE SUBCOMMITTEE
APRIL 27, 1994

Honorable Chairman and Members of the
Subcommittee on Department Operations and Nutrition
Committee on Agriculture
1301 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Stenholm and Members:

The Norco City Council is steadfastly opposed to aerial spraying of malathion to control the spread of Mediterranean Fruit Flies. We believe that aerial malathion spraying poses serious threats to public health. We also strongly believe that other safer measures are available to control the spread of this crop pest.

We have been told that the only eradication measure appropriate for the Norco and Corona areas is the aerial application of malathion bait. If this is true, it is only because Agricultural officials have totally failed to develop and maintain an ongoing, cost effective, and pesticide free eradication program. The release of sterile Medflies combined with limited ground spraying and other measures is a proven method to solve this problem. In fact, that is exactly what is being done in Los Angeles and Orange County today. The "shortage" of sterile Medflies was the purported reason given for aerial spraying of the Norco and Corona areas. This fact underscores the lack of planning and preparation that has plagued the Medfly eradication effort from the very beginning.

The Norco City Council is not anti-agriculture and does understand the consequences to the economy if the Medfly battle is lost. In fact, Norco prides itself in its agricultural and rural history and lifestyle. It is for this very reason that Norco is particularly hard hit by the aerial spraying process. People in our City are devoted to the animal keeping lifestyle and almost all of the 6,000 residential lots in Norco exceed one half acre in size and Norconians have probably the largest and

CITY COUNCIL

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Mayor

TERRY A. WRIGHT
Mayor Pro Tem

RICHARD L. MacGREGOR
Councilman

LARRY B. CUSIMANO
Councilman

BARBARA J. CARMICHAEL
Councilwoman

most diverse assortment of domestic animals anywhere in the country. The health concerns regarding malathion are increased due to the large number of horses and other animals kept by our residents out-of-doors throughout our City. Many residents of Norco have been perplexed and amazed that State officials continue to assert that Malathion spray is not hazardous to people or animals but a specific exemption to spraying was adopted for K-rat and endangered bird habitat. We can understand why people are worried about their domestic animals when they see that these protected species are exempted from the spraying because of the possible injury to these small animals and birds. It is no wonder that Norco residents are concerned for their pets and livestock. Another issue to owners of animals relates to the need to stay up into the early morning hours to protect livestock from the malathion spray, including taking precautions to cover water and feed supplies. The employment of sterile flies to solve this Medfly infestation would not have been a hardship at all and would have been well received and supported by our residents.

We reiterate our opposition to aerial spraying of malathion bait and continue to believe that, were it not for poor advanced planning, other less intrusive and safer eradication methods could have been used. Our residents have been disappointed and angered by the fact that such measures were not used and the very worst approach was applied to our community.

We regret that a representative of our community was not available to attend this hearing due to budget and time constraints. I hope that this letter will be read and considered by the members of the House Subcommittee on Department Operations and Nutrition.

Sincerely,



William T. Vaughan, Mayor
City of Norco

**UNIVERSITY OF CALIFORNIA
PROPOSAL FOR ESTABLISHMENT OF A CENTER FOR RESEARCH ON
MEDITERRANEAN FRUIT FLY AND OTHER EXOTIC PESTS**

Abstract. The University of California proposes creation of a Center for Exotic Pest Research. This is a systemwide initiative, to be headquartered on the Riverside campus. Initial efforts will focus on Mediterranean fruit fly (medfly) research which might be of assistance in the current California eradication effort. These efforts will be supported by the construction of new alternative pest containment and quarantine facilities on both the Riverside and Davis campuses.

Need for the Center for Exotic Pest Research. California agriculture, forestry, urban quality, and natural resources are continuously exposed to the accidental introduction of exotic pests into the state. Between 1955 and 1993, 226 exotic Invertebrates were introduced into California or about one every 60 days. New or potential introductions of insects that significantly affect urban and agricultural areas include Mediterranean Fruit Fly, Oriental Fruit Fly, Africanized Honey Bee, German Yellow Jacket, Imported Fire Ant, Formosan Termite, Brown Citrus Aphid, Citrus Leafminer, Serpentine Leafminer, Asian Gypsy Moth, Asian Tiger Mosquito, Japanese Beetle, and a large number of whitefly and scale species. Siebert (1994) has suggested that the impact of medfly alone on California agriculture could range from \$1.06 to \$1.44 billion. This is in addition to problems created by the medfly in the urban environment. Pest arthropods, diseases, plants, and nematodes arrive by a variety of means, and although many do not become established, the rapid and widespread movement of people and commerce increases the probability that introductions of serious pests will occur at a greater frequency in the future.

The goal of the Center for Exotic Pest Research is to address critical short-term research needs and establish a strong, long-term science-based research program on recently introduced pests, beginning with the Mediterranean fruit fly. Fundamental research will emphasize fruit fly ecology, behavior, and population biology/ genetics. Based on this research, current management strategies for urban and/or agricultural populations of fruit flies will be evaluated and improved strategies developed.

Short-Term Research Priorities:

The current strategy by USDA and the California Department of Food and Agriculture focuses on detection and eradication through aerial spraying of malathion and sterile insect release technology (SIT). The proposed Center would attempt to support these efforts by conducting research to evaluate and potentially improve current eradication procedures.

Baited toxicants. Sociably acceptable alternatives to malathion, such as insect growth regulators, will be evaluated for effectiveness against the medfly. Bait formulations will be evaluated for competitive ability in the presence of natural protein sources in agricultural, urban landscape, or backyard garden environments. The effectiveness and practicality of aerial versus ground bait-toxicant treatments will be determined. The current aerial malathion-bait applications will be further evaluated for actual rather than perceived impact on agricultural and backyard pests and natural enemies and the potential for human exposure.

Detailed biological studies on the medfly in climatic regions similar to California. This research will focus on the behavior and ecology of low density medfly populations in other areas of the world with climatic similarities to various parts of California and in its areas of origin in southeastern Africa. These data will be used to improve interpretation of California trap catch data and to improve current trapping and eradication protocols.

Center for Exotic Pest Research (Continued)
Page 2

Long-Term Research Priorities:

Biological control. Many of the parasitoids in culture in various laboratories around the world may be less host specific than would be desirable and might not establish well under California conditions. Additional efforts at foreign exploration for more effective medfly parasitoids will be initiated with particular focus on its area of origin in southeast Africa. These parasitoids would be evaluated in UC's new quarantine facilities.

Fruit fly behavior/ecology/population biology. medfly behavior, particularly courtship and mating behavior, feeding behavior and protein source location, oviposition behavior, and dispersal need to be better understood, particularly in the context of California conditions, at low medfly densities, and for feral flies in SIT areas. Subcolonies of California flies originating from larval finds will be established elsewhere for research on mating behavior with sterile insects as well as studies aimed at determining the probable source of introduction into California (perhaps using new mitochondrial DNA variation techniques).

Population genetics/sterile insect technique. Methods need to be developed to properly and rapidly evaluate the effectiveness of sterile insect releases under field conditions. Quality-control characteristics will be developed to accurately predict the competitive ability of laboratory reared, irradiated, chilled, and sexually released medflies. Research will be conducted on improving competitiveness through colony source, method of irradiation, etc. New methodologies will be developed to better measure the potential for assortative mating (behavioral resistance). Additional efforts will address the role of sterilized females in population suppression (thermal sensitive strain). Overflooding ratios will be determined to provide effective suppression or eradication at various times of the year in response to changing medfly behavioral patterns and host-plant availability.

Invasion biology. The ecology and population dynamics of pests soon after they are introduced into new environments will be studied. Key mortality factors, reproductive rates, seasonality, development rates, host-plant range, and host-plant preferences affect the likelihood of establishment and rate of spread will also be investigated.

Initial Activities/Budget:

Interim Director of the Exotic Pest Research Center. Appoint an Interim (2 years) Director for fruit fly research activities until a senior researcher is hired and on-board to direct the program. The Interim Director will be responsible for interfacing with fruit fly researchers in laboratories around the world, in order to build on existing efforts and minimize duplication.

Fruit Fly Workshop. Convene a workshop after the Fourth International Symposium on Fruit Flies of Economic Importance (June 5-10, 1994, Sand Key, Florida). This workshop will identify both short-term and long-term research foci that will be of use in detecting and managing low density fruit fly populations, especially in urban environments.

Requested Funding. An annual budget of \$1.5 million would fund the universitywide effort to be coordinated by the Riverside-based Center. This would cover the cost of the Interim Director, two additional faculty positions, postdoctoral researchers, graduate students, and support for the research efforts identified above.

Questions from the
California State Assembly
Hearing on the Medfly
February 1, 1994
Answers by CDFA
Secretary Henry Voss

Cities of Corona and Norco
Senate Agriculture and Water Committee Meeting
Tuesday, February 1, 1994, 8:00 a.m.

Questions by Corona and Norco Officials:

1. We would like to understand exactly how the decision process works on authorizing aerial spraying, and what factors led to the decision to order the emergency proclamation. In particular, we want a better explanation of the Japanese embargo threat.

The decision to treat the Medfly infestation in Corona was made by the Secretary of the California Department of Food and Agriculture (CDFA) and the Secretary of the U.S. Department of Agriculture (USDA). The Secretary of the CDFA consulted with the Medfly Science Advisory Panel (MedSAP) and the Governor prior to the decision being made. The MedSAP reaffirmed that only the use of sterile Medflies, preceded by pesticide applications to kill existing sexually mature adults, and aerial applications of malathion and bait, have ever eradicated any Medfly infestation. The MedSAP and the CDFA have maintained that aerial applications of malathion would be required if insufficient numbers of sterile Medflies were available. This situation arose in Los Angeles, Riverside, Orange, and San Bernardino Counties in 1989/90, and the CDFA and USDA treated those infestations which arose after the available supply of sterile Medflies was exhausted with aerial applications of malathion and bait.

The policy of the CDFA is to utilize aerial applications of malathion and bait as the last resort to eradicate Medfly infestations. The CDFA has committed the entire sustainable supply of sterile Medflies from Hawaii for the basinwide sterile release zone recommended by the International Science Advisory Panel (ISAP). As was done in 1989/90 in numerous cities in Los Angeles, Orange, Riverside and San Bernardino Counties which were treated with aerial applications of malathion and bait in 1989/90, the Corona infestation was discovered after the sustainable supply of sterile Medflies was exhausted.

Japan has traditionally taken a continental approach to plant quarantine issues; if a pest of concern to them occurred in any portion of a country, they quarantined the entire country. In the case of Mediterranean fruit fly, they have made a major concession to the U.S. and California by quarantining only the portion of the State that is quarantined by CDFA and USDA. This means that the balance of California, an area that produces nearly \$18 billion annually worth of agricultural products (\$5 billion worth of Medfly hosts), can continue to ship to Japan without major restrictions (\$300 million immediate loss for California host crops to Japan alone). If Japan were to quarantine all of California, or all of the U.S., other Pacific Rim countries would surely take the same position leading to a domino effect and an unbearable loss to this State's economy. It should be noted that one in 10 California jobs are related to the production, packing, transportation, and sale of agricultural goods.

As a result, by taking an aggressive approach to the eradication of Medfly, we will not only ensure the best chance of eliminating this pest from the gardens and backyards of the State's citizenry, but we protect the State's economy and agriculture industry from immediate and long lasting damage from trade embargoes and ongoing increased pesticide usage for control of the pest.

2. While we have been told that Japan has demanded that California aggressively pursue the eradication of Medflies, who has specifically said the only aggressive approach that Japan will agree to is aerial spraying of malathion?

Japan has indicated that California can expect an agricultural embargo if the eradication of Medfly is not pursued more aggressively. On December 4, 1993, Mr. Yoshimura, Director General of Plant Protection in Japan's Ministry of Agriculture, Forestry, and Fisheries (MAFF), made that statement during a bilateral meeting between MAFF and USDA Officials. Secretary Voss, after consultation with the MedSAP the ISAP and CDFA/USDA professional staff, decided to implement a basinwide sterile insect release program in the Los Angeles Basin. This proactive approach means the commitment of all available sterile Medflies from the CDFA and USDA facilities in Hawaii toward the basinwide effort. The Department has taken the position that aerial applications of malathion and bait would be necessary if sterile Medflies were not available. There are no other reliable methods for the eradication of this pest.

3. Why were city officials not given more notice to the possibility of aerial spraying? The City was not notified until the day before the press conference, and then they were told it was just to talk about the Mediterranean fruit fly. The City was not told that aerial spraying was the subject of the press conference until the Mayor and City Manager were briefed, about one hour before the actual press conference.

After a full evaluation of the Medfly situation in the Los Angeles Basin and Corona, Secretary of Agriculture Espy, Governor Wilson, and I agreed upon the present course of action. We did not receive the approval of this plan from the Secretary of Agriculture until January 12, 1994. It would have been inappropriate to notify the city elected officials prior having the final approval of the Department of Agriculture.

4. If malathion has appeared to show ocular effects on human beings, what about animals? Animals will look up when the spraying is taking place.

Reviews by the CDFA and the California Department of Health Services (DHS) have failed to find credible evidence of ocular effects from exposure to malathion. There is a poorly done study from Japan which linked malathion exposure and ocular effects, but the report failed to include the numerous other pesticides sprayed in the area at the same time in its analysis. No further studies have found such a linkage. We expect no ocular damage to humans or other animals from the aerial application of malathion and bait in the Corona area.

5. Who is going to pay for damage to animals that are frightened and will flee?

The CDFA has provided significant advance notice of the planned aerial application in order to provide residents opportunity to move or secure livestock in the affected area, and thereby reduce the chance of injury or loss. Given the emergency nature of this program, we cannot reasonably do more than provide the notification. The Governor's Declaration of Emergency provides immunity from damages which may occur as the result of the applications.

6. What is the toxicity and residual effects of the malathion? Not just three-day residual.

Previously we used 2.4 fluid ounces of malathion per acre. In this program we will use half that rate, or 1.2 fluid ounces per acre. During the last two aerial spray programs, an average of 1,984 micrograms of malathion per square foot was deposited in the spray area. This equals 7/10,000 of an ounce per square foot. There was no indication that the malathion accumulated between aerial treatments. The malathion has a half-life of about three days. Thus, half of the material is lost every three days. Factoring in the one-half reduction in the initial spray rate, we can therefore expect residues to be approximately 1,000 micrograms per square foot the day of application, 500 micrograms per square foot at day three, 250 micrograms per square foot at day six, 125 micrograms per square foot at day nine, and 63 micrograms per square foot at day 12.

The CDFA, USDA, and DHS have independently studied the potential health effects of the aerial application of malathion and bait using 2.4 fluid ounces of malathion per acre. None of these studies found any significant human health risks associated with the aerial application of 2.4 fluid ounces of technical malathion per acre. Based on recent data generated by the CDFA, I am able to reduce the application rate to 1.2 fluid ounces of malathion per acre without compromising the effectiveness of the program. This doubles the already large margin of safety present in the program.

7. Since the flight area only includes a small portion of Norco, and because Norco has so many animals, why can't they just eliminate that area and do ground spraying?

The goal of an eradication treatment area is to have it large enough to encompass the entire infestation. The "average" flight range of female Medflies is two to four-and-one-half miles. Thus the potentially infested area around each find site is 16 to 81 square miles. The larger figure is used to establish quarantine zones and the smaller figure to help establish eradication treatment zones. We draw our treatment boundaries based upon fly biology, not the presence of political boundaries. To reduce the size of the treatment area reduces the probability of eradicating this infestation.

8. Why can't the sterile Medfly program do the same job? Is there a reason that it won't work other than they will run out of flies? It would only take about two percent of those sterile Medflies being used in Los Angeles County. Why can't they save some for Norco?

We have always maintained that sterile flies could eradicate infestations of the Medfly. In October 1993, the USDA and CDFA convened both the MedSAP and the ISAP to review the Medfly situation in California. Both panels are composed of internationally recognized Medfly experts. The two panels recommended different approaches in the use of sterile Medflies to deal with the situation. Subsequent Medfly captures convinced the Secretary of the CDFA to adopt the ISAP recommendations. This plan called for the establishment of a basinwide sterile Medfly release zone using a minimum of no less than 250,000 flies per square mile throughout the entire area, supplemented by an additional 250,000 flies per square mile in a four-square-mile area around all fly find sites in the release zone. The ISAP recommendation was for a single, unbroken release zone. The ISAP strongly recommended that no fewer than 250,000 flies be released per square mile throughout the entire area, to be supplemented by the additional 250,000 flies per square mile in a four-square-mile area around fly find sites in the release zone, as no successful program had used fewer flies per square mile. The current program in the Los Angeles Basin is a unified, single sterile release zone based upon the 250,000 figures of the ISAP. There is no "confidence interval" or "slop" in these figures and they are not based upon some model whose parameters have been modified by a "fudge factor." Diverting the flies from the basinwide program will reduce the release rates below the levels found necessary for success by the ISAP, and will jeopardize Medfly eradication from the core area in the basin.

9. We have a larger area than is shown on the target map for quarantine area in Norco. How much sooner would the quarantine be lifted with the malathion spraying versus without it?

Assuming that no more flies are found and that the spray schedule isn't disrupted further, we project that the quarantine will be lifted in August 1994, if aerial applications of malathion and bait are used. If sterile flies were to be used, the soonest the quarantine would be lifted would be May 1995.

10. What information do they have about commercial farming and produce grown in the Norco quarantine area?

Japanese officials representing the Ministry of Agriculture, Forestry, and Fisheries requested and were provided detailed information regarding commercial production of Mediterranean fruit fly host crops in the Corona area. After a survey by USDA and Riverside County Department of Agriculture representatives, a detailed map which showed commercial crop production both inside and adjacent to the Corona quarantine area was prepared and provided to Japan.

11. Why won't they spray the K-rat and the least Bell's vireo habitat? We were told that spraying would eliminate the food supply for the K-rat and endangered bird, however, we have heard that this is not exactly true and the K-rat do not eat insects. What is the reason that endangered species habitat are not sprayed?

There are two areas that will not be treated because of the presence of threatened or endangered species listed by the State and/or federal governments. The Butterfield Stage Trail Park is one area. It has confirmed locations of the bald eagle, least Bell's vireo, western yellow-billed cuckoo, and willow flycatcher within that portion of the park within the treatment zone. The last three birds eat insects. We will kill nontarget insects inside the spray zone. Although the populations of these nontarget insects will return to normal levels shortly after the sprays stop, we will treat during the time when these three birds will have young to feed. The Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS) have determined that spraying this area when young are present represents "take" under the endangered species acts and they have directed us not to do so. We have complied with this request to avoid "take" of these birds. The open, sage area in the northeast corner of the spray zone has known sites of the Stephen's kangaroo rat and the California gnatcatcher; both federally listed species. The gnatcatcher eats insects and CDFG and USFWS have requested that we treat the gnatcatcher like the vireo, cuckoo, and flycatcher. We have agreed to comply with the Endangered Species Act.

12. The orchards in the Corona area are fast disappearing. Why is having malathion spraying such a crisis that they have to spray our area? We are several miles from the Woodcrest orchard growing area and they are not being quarantined.

(The size of the treatment/quarantine zones is discussed in # 7) It is tempting to treat commercial agriculture with more stringent measures than nearby urban areas under the belief that the Medfly poses are greater risk in the commercial setting. In fact, the reverse is true. Commercial settings typically lack the continuous sequence of available, ripe fruit to sustain a Medfly population throughout its breeding season. They are routinely treated with uniform pesticide sprays and their crops go to centralized locations where appropriate disinfection procedures can be used on them. Urban settings typically have a continuous supply of available, often over ripe fruit on fruit trees and ornamental plants throughout the Medfly breeding season. Pesticide sprays, if used, are non-uniform leaving numerous refugia for the flies in edible and ornamental fruit, and homeowners move fruit around in manners which make centralization, much less post-harvest disinfection, impossible. The urban areas pose the greatest risk of developing large Medfly populations and of allowing their spread throughout the State.

13. There was only one fly found on December 17, 1993, and none reported since then. Why are State officials still insistent on spraying? Spraying people because of just one single find with no other substantiating evidence that the area is fully infested seems out of balance and unfair to the residents of the area. We have heard a lot of comments about the single fly issue and believe most people are very skeptical of the scientific methodology regarding proving that the fly found could not have been a mutant or aberration.

A mated female fruit fly has always been considered as firm evidence of a breeding population. A mated female means that at least two Medflies were present in a small area, often a single tree, at the time when both sexes had become sexually mature. A mated female begins immediately to lay eggs and thus starts the next generation. Studies by the USDA in Hawaii found that Medfly trap efficacy is such that frequently only one fly in a population of 200 or more is captured. The total Medfly population is composed of eggs, larvae, pupae and adult flies. We are able to detect only the adult flies with our traps. Studies by University of California scientists found that the Medfly adults typically constitute only five to 20 percent of the total fly population. Thus a mated female Medfly represents a situation in which at least two generations of the fly are present, hers and her progeny, and in which as many as 1,000 to 4,000 or more total Medfly life stages are present.

14. How is the liability handled if someone claims damage to health or to livestock or property? What is the liability and how is it handled? How can someone make a claim?

The Governor's Declaration of Emergency provides immunity from claims of damages which may have occurred as a result of the aerial bait spray applications. However, those who wish may file a claim with the Board of Control. Claim forms may be requested from the Medfly Project Hotline or directly from the Board of Control.

15. At the Corona public information meeting, several speakers referred to a 1991 Department of Agriculture memorandum regarding future whole-body research on aerial spraying health effects. The officials present were unable to answer any questions regarding that issue and agreed to check it out. To date we have not had a response. What did they find out?

In 1991, the U.S. Environmental Protection Agency (US EPA) requested human whole body exposure data for aerially applied malathion as part of the registration of the material in Florida. The USDA agreed to provide such data during the next program which used aerial applications of malathion and bait in Florida. They also added California as a site in which could generate this data. The USDA requested that the US EPA provide a protocol for obtaining the data. To date, the US EPA has not provided such a protocol. This makes it impossible for me to comment on the details of the protocol. I CAN SAY THAT THIS ERADICATION PROGRAM IS AIMED AT ELIMINATING THE MEDFLY FROM CALIFORNIA. I WILL NOT SUPPORT ANY PROGRAM WHICH CONDUCTS EXPERIMENTS ON THE CITIZENS OF CALIFORNIA.

16. What about FAA regulations when they fly at 500 feet or below. How can the aircraft fly so low and how do they get around those regulations?

The Governor's Declaration of Emergency provides the exemption to FAA regulations regarding the operation of our application aircraft at 500 feet or below. If necessary - specific reference is: FAA Regulations, Part 137, Subpart A, Section 137.1.

17. At an altitude of 500 feet, how will they guarantee that spray will not drift beyond the boundaries?

We cannot guarantee that drift will not leave the spray area. In previous projects over 86 percent of the malathion that was sprayed was found inside the targeted area. The remainder either left the area as drift or was degraded before it hit the ground. At worst, about 14 percent or less of the malathion may leave the area as drift. This equals about 0.2 ounces or less of malathion per acre. For comparison, a homeowner mixing one fluid ounce of 50 percent malathion in a gallon of water is using about 0.6 ounces of malathion.

18. Even though they say they will fly from 9:00 p.m. to midnight, previous experience in Los Angeles County is that their flight times are erratic and sometimes they fly late into the night, past the hours prescribed. What can they do about this? We have heard reports from people in Monrovia area that this was the case.

The typical schedule for aerial applications of malathion and bait starts at approximately 9:00 p.m. and extends into the early morning hours. The duration is dependent upon size of the area, number of areas to be completed, and number of helicopters available to do the treatment. Occasionally unforeseen factors such as mechanical difficulty, weather, etc., affect our ability to complete the spraying within the scheduled time. In those circumstances if we are able to correct the mechanical problem or the weather improves we will resume the treatment that same night.

19. Is there any other type of bait that can be used other than corn syrup?

The protein-based bait used in our ground and aerial spray programs is the most attractive bait material available for the Medfly. We also use it in our trapping program for the Medfly and other fruit flies. It is not attractive to birds, most other insects including Argentine ants, cats, dogs or other vertebrates. Other baits using a sugar base have been tested and used in the past, but none are as attractive to female Medflies, and all are more attractive to non-target organisms.

20. We are also concerned about what kinds of animals would lick or eat the malathion bait and what is the health risk to the various fish, small birds, and other small animals. Norco has a lot of livestock, water troughs that have mosquito fish and gold fish, and a lot of outdoor aviaries with a variety of birds. Is there a health risk if the bait gets on the wire and the bird licks this off? Will it kill or cause health problems with small birds?

The small size of the droplets (0.02 inches in diameter) and the chemical composition of the bait make the droplets unattractive to most other animals. We have no reported instances of birds, cats, dogs, horses, etc., purposely licking up the droplets. They will ingest the droplets when eating food which was exposed to the spray, but the small amounts of malathion used make it extremely unlikely that the animals will experience any effects. Monitoring by the Department of Fish and Game failed to find malathion residues in birds or small mammals in those areas treated in 1981/82 using twice the amount of malathion we will use. Past programs have killed fish in shallow ponds which were treated. We have recommended that owners cover such ponds, water troughs, etc., during the sprays. It is important that the covers be removed after the sprays to prevent the fish being killed by a lack of oxygen.

TOPIC: MEDFLY DAMAGE TO CALIFORNIA: Although it is impossible to exactly predict what effects the Medfly might have on California if allowed to become established, the CDFA, USDA, and University of California have done projections. The three reports vary in the magnitude of the effects but all three agree that the presence of the Medfly will lead to increased pesticide use by commercial growers of several hundred thousand pounds to 10 to 20 million pounds of active material per year used to protect susceptible crops; that these increased pesticide sprays will cost from \$10 to over \$300 million annually; and that numerous countries including Japan, China, and Mexico will quarantine California produce. Quarantine compliance costs will exceed \$50 million per year.

It is estimated that homeowners will use an additional 69,000 to 346,000 pounds of additional active material per year (200,000 to 500,000 pints of over-the-counter pesticide) at an annual cost of \$2 to \$5 million. Dooryard crop losses are estimated to be as high as 200 million pounds of fruits and vegetables each year.

TOPIC: PUBLIC INPUT ON THE AERIAL SPRAY PROGRAM: The CDFA has prepared and taken public comment on a Draft Environmental Impact Report (DEIR) entitled "The Exotic Fruit Fly Eradication Program Using Aerial Application of Malathion and Bait." The public comment period ended on July 30, 1993. The DEIR was sent, on or around June 15, 1993, to the mayors of the Cities of Corona and Norco, the Riverside Board of Supervisors, the Riverside County Parks Department, the Riverside City/County Public Library, and the Riverside County Agricultural Commissioner (two copies, one for his review and one for use by the public). Two public hearings on the DEIR were held in Los Angeles County in El Monte and Culver City on July 6, 1993. The public hearings and the availability of the DEIR were advertised in a number of papers including the Los Angeles Times. The CDFA received no comments on the DEIR from any official of the cities of Corona, or Norco or from Riverside County.

TOPIC: TREATMENT AREAS TRIGGERED BY A SINGLE MATED FEMALE MEDFLY:

Los Serranos, San Bernardino County on September 17, 1993

Pomona, Los Angeles County on October 20, 1993

Downey, Los Angeles County on November 1, 1993

West Covina, Los Angeles County on November 10, 1993

Wilmington, Los Angeles County on December 3, 1993

Hollywood, Los Angeles County on December 13, 1993

Compton, Los Angeles County on December 13, 1993

Culver City, Los Angeles County on January 6, 1994

Corona, Riverside County on January 12, 1994

Medfly eradication programs were commenced in Los Angeles, Orange, Riverside, and San Bernardino Counties when one or more of the following criteria were met: (1) two or more Medfly adults were trapped within a time interval equal to one Medfly lifecycle and within three miles of each other, (2) a mated female was found, or (3) two or more life stages were discovered.

Supplemental Questions from the City of Norco

1. Question number 15 referred to the 1991 Department of Agriculture memorandum regarding future research. Councilwoman Carmichael also is concerned about the letter written to EPA Administrator Carol Browner, dated November 26, 1993, from Congressman George Brown, Jr. regarding this same issue. Her question is simply, are they doing a human study over residential areas and are we it?

Answered in Question # 15 above.

2. Question #20 related to the effect on birds. Councilwoman Carmichael is also concerned that many Norco residents raise exotic and endangered birds. What are the health risks to these birds?

Answered in Question # 10 above.

3. Because the Santa Ana River is the home for at least one listed endangered species, the least Bell's vireo, is there a risk to run-off from the spray area entering the Santa Ana River and causing health effects in the river to endangered species or humans that use the waters of the Santa Ana River for water supplies?

Experience in past programs has been that there is no measurable malathion in untreated aquatic areas unless there is sufficient rain within 24 to 48 hours after application to wash residues into them. We minimize this occurrence by not treating if there is a 50 percent or greater chance of rain within the 24 hours after an application is scheduled.

4. A question that came up a number of times at the public meeting two weeks ago in Corona involved the residual effects in milk lasting three to four days. There is concern, particularly in Norco, regarding nursing animals and consumption of milk products of home raised goats and dairy cattle. What are the health effects?

There is no truth to allegations that malathion is a concern for nursing animals and home use milk products. At a rate of 1.2 fluid ounces per acre, it is highly unlikely that even trace amounts of malathion will be found in milk. Malathion is used in the dairy industry. The legal tolerance for malathion residues in milk is 0.5 parts per million (ppm).

5. We became aware just today that a local dairy within the Norco portion of the spray zone was dropped from the aerial spray zone. How are these decisions made to selectively drop certain areas from the spray zone and what is the justification of such actions?

Additionally, a number of other dairies are close by. How can you be sure that the wind will not carry the over spray from the helicopters into adjacent sensitive areas?

No special exemption was granted to this dairy. The dairy in question is inside the area in the northwest corner of the eradication zone which is not being sprayed because of the presence of threatened and endangered species. Host trees within this area will be treated with malathion and bait from the ground.

6. Another animal keeping issue is hay and grain supplies for local horsemen and other animal keepers. It is nearly impossible to totally protect hay stacks and other feed supplies during the spray operation. This is of grave concern to residents who do not have indoor feed storage. Is there a residual effect of malathion to meat producing animals that feed on hay or other feed that has been sprayed with malathion bait?

At the rate we spray the malathion, 1.2 fluid ounces per acre, it is extremely unlikely that measurable residues will meet the action level of 135 parts per million.

7. Will there be any ground level monitoring of the spraying to make sure that the spraying is done evenly and with the concentrations at or below the doses that are planned?

Ground monitoring will be conducted by the Environmental Monitoring Program of the California Department of Pesticide Regulation. They will monitor the concentration of malathion, malaoxon, and isomalathion in the tank mix, the distribution of the malathion and bait droplets, and malathion air levels in the treatment area, and the presence of the malathion and bait in areas not to be treated.

Questions from the
Concerned Citizens of
Corona and Norco for
Medfly Hearing
May 5, 1994

Statement and Questions for the Congressional Oversight Hearing
on the Medfly Eradication Program

Submitted by: Concerned Citizens of Corona and Norco
2621 Green River Drive
Box 181, Corona, CA 91720
(909) 272-9153

1. The protocol for declaring an emergency needs to be reexamined. There should be a stronger burden of proof required of the CDFA and USDA of a medfly infestation before they spray cities.

Only one fertile medfly was found in December; almost four months have passed now and no other wild medflies have been found in Corona or Norco. Many more such flies were found in neighboring counties, even after the find in Corona, and those counties continue receiving infusions of sterile male medflies instead of the aerial application of malathion to control those infestations.

Question: Will the CDFA and the USDA use other alternatives and have more than one fly find before they spray cities in the future?

Question: Will the CDFA and the USDA be required to have town hall meetings and notify all local officials before they decide to spray?

2. The CDFA and USDA must be held accountable for telling Corona, Norco and the Riverside County Board of Supervisors that we were being sprayed because no sterile flies were available. Now that they have 50 million which will be increasing to 200 million per week of additional flies, the CDFA informs us that sterile flies were never the preferred method of treatment for Corona.

Question: What explanation do they have for lying to our officials and citizens?

Question: Why did they refuse to include us in the SIT despite the fact that when they moved the quarantine zone for IA it placed the boundary within 10 miles of Corona?

Question: Concerned Citizens of Corona and Norco would like to ask why our request for unbiased experts and citizens to speak were denied in light of the fact that growers will be allowed to address the congress in these proceedings.

3. We would like to know why state protocol allows some areas such as Ontario to throw out traps without checking for wild flies. In Light of the fact that Ontario has an international airport and is close to Corona we are concerned that our area could be reinfested with the source coming from the Ontario area. This is extremely alarming when you consider that sterile flies from the LA Basin program are being found in Corona.

Question: How can they know if the fly is established or if the SIT program is truly successful?

4. Concerned Citizens of Corona and Norco understand that the medfly is a serious matter. However, we must insist that no foreign country, including Japan, should be allowed to pressure America into spraying its' citizens as a gesture to demonstrate that we are in control of the medfly situation. Instead, we need your help to stand up and fight for Californians by finding ways to deal with agricultural and economic concerns in a manner which would be safer for humans and animals such as sterile flies, cold storage and other biological control methods.

Question: Is it true that we have let domestic and foreign markets and the threat of their boycotts become more important than American citizens health and their constitutional rights?

5. It is imperative that more emphasis and funds be put into non toxic preventative measures, education of citizens and bio control research.

Question: What are the agencies' intentions in these areas?

6. Corona and Norco would like to request Congress make the CDEA and the USDA explain why they have not admitted that the medfly is established in Southern California. California has had repeated infestations in 1980, 81, 82, 83, 84, 86 88, 89, 90, 91, 92, 93 and now 1994. For many years these infestations have been numerous and they have been increasing. They found 202 medflies in 1992 and 400 in 1993. The numbers doubled in only one year.

Question: What justification do they have for saying 400 flies are reinfestations and not an established population?

Question: Is it not true that the number of flies and the number of geographical locations continues to grow?

7. The 1993 Environmental Impact Statement for the Medfly Cooperative Eradication Program states that a drift factor of 3 1/2 miles will exist in 5 mph winds. Many residences, just outside of the spray zone, have been exposed to malathion

drift. In some cases, they have actually been sprayed without any type of warning or notice.

Question: Are the CDFA and the USDA going to make procedural changes to notify and protect citizens, their animals and their property contiguous to the spray zone?

8. Concerned Citizens of Corona and Norco has collected over 4,000 signatures of citizens requesting not to be sprayed, requesting the use of sterile flies in our area and help in implementing non toxic biological control programs.

Question: Why is the CDFA and the USDA allowed to spray Americans and their property against their will or consent. What has happened to their civil and constitutional rights?

9. Pesticide products all come with warning labels including strict guidelines for use in different situations.

Question: Why is the CDFA and the USDA allowed to spray urban areas without giving the citizens they are spraying the same precautionary statements and warnings that are listed on federally required labels of Malathion containers purchased over the counter or sprayed in agricultural areas?

10. No procedure is established to provide medical help in case of a rash, asthma attacks, headaches diarrhea, etc.

Doctors trained in organophosphate poisoning, who know the proper blood and urine tests, should be available at the agency's expense to assist citizens if they are going to spray urban areas.

Instead the local county agencies are left to handle the problem and when they are called to report problems they are uneducated and consistently unhelpful.

Question: If they are going to aerial spray towns why aren't they providing help for those who need it? Why isn't there anything set up for testing to try and get the truth about medical effects on the population?

11. The state agencies cause mass confusion as they announce they will spray regardless of any problems the people in Corona and Norco may have. Rescheduling a spray due to stormy weather often has not given citizens, schools and businesses enough time to prepare their property in daylight hours. The decision to spray or not to spray is at the decision of Sacramento officials according to what the weather service predicts for 9:00 P.M. that night. Twice cancellations of spray evenings were not canceled until 5:15 or later on very

rainy and windy days. This puts people leaving the spray area, ranchers, community and church activities and spray preparations on hold, wondering what to do until the last hour before dark and after business hours. Early in the day of a spray, different information is often given out that contradicts what is given out later in the day.

Question: Why is the CDFA not required to follow Assembly Bill 4209, Chapter 1678 which require 96 hours notice if there is a change in the date?

12. The State agencies cause an air of distrust as they announce the spray program. They are extremely arrogant and rude.

The medfly project phone lines are very disrespectful to people who call in and discourage citizens from filing reports. Employees handling the phone lines often tell callers their problems could not be related to malathion without any consultation of a nurse or doctor.

Question: Why aren't all health calls logged and referred to a nurse or doctor?

13. The California Department of Health Services 1991 "Health Risk Assessment of Aerial Application of Malathion-Bait" states on Page 8-46 that "Given the findings of this risk assessment, DHS recommends that the use of aerial malathion-bait applications in urban areas for agricultural pest eradication be reconsidered." The authors argue instead on Pages 8-45-46 that further research into the biological effects of malathion be conducted because "Although the existing database may be adequate to support the continued registration of malathion for use in agriculture to control pests, the data do not necessarily provide information pertinent to the evaluation of the use of this pesticide in urban areas with large populations to control pest infestations."

Question: Concerned Citizens are very concerned that these tests were done only with healthy male workers. Do these tests, done mainly for agriculture and not urban spraying, guarantee the safety of all the sub populations at risk?

14. The USDA's Animal and Plant Health Inspection Service's "Medfly Cooperative Eradication Program: Final Environmental Impact Statement" admits that the aerial application of malathion may cause harm to several groups of people who are "hypersensitive" to the effects of this potentially dangerous organophosphate, including the following: those disabled with impaired immune function, individuals with liver disease, pregnant women and individuals with "immature enzyme detoxification systems" such as embryos, fetuses, neonates, and children to three months of age. On individual

susceptibility to toxic effects of the chemicals used in the Mosquito Cooperative Eradication Program cannot be specifically predicted."

15. The California Department of Health Services "Health Risk Assessment" also recognized that there is not enough information on malathion's potential to cause cancer, genetic and ocular damage and admitted that members of "sensitive" populations such as children and the elderly may experience toxicity to its effects.
16. The APHIS Final E.I.S. also reports on Pages 166-67 that there is a distinct possibility that the cumulative effects of exposure to pesticides will produce a "potential for synergistic effects resulting from the combination of program pesticides and pesticides or chemicals used by the public . . . including household cleaners, lawn and garden chemicals, and home maintenance products.

Question: In light of the 1991 Health Risk Assessment and APHIS Final EIS, how can the California EJR state it is safe for those sub populations that might be at risk?

17. We are very alarmed at the amount of calls received by our health hotline as well as the range of severity of illness experienced by residents in the sprayed areas. The most prevalent symptoms have included not only skin rashes, diarrhea and nausea but more severe problems such as asthma attacks, headaches and burning and tearing of the eyes after each application of malathion. We can furnish medical documentation to prove that people in Corona and Norco have been injured and become ill.

Question: Why is the ODPA releasing project status reports such as the one dated March 2, that say there has been no health problems for animals or humans when there are known cases in Corona and Norco?

We believe it is your obligation to help prevent any future aerial applications of malathion over urban areas unless the state and federal government can provide the documentation that proves the safety of the use of this pesticide on urban populations. We have grave concerns that there might be dangerous long-term adverse health effects from cumulative exposures of this organophosphate, even at low doses. Please, Please do not allow the aerial spraying of malathion over unsuspecting individuals to become another tragedy like the ones experienced by the unwise use of agent orange, DDT or nuclear testing 20 or 30 years from now. It is time for our government to stop looking the other way and to deal with the long-term consequences of its actions in these types of matters.

Petition

To the elected officials of Corona and Riverside County:

We urge you to protect our health and environment by joining us in calling for the state and federal government to:

- * Ban aerial spraying for exotic fruit fly eradication
- * Release sterile flies now to control the medfly infestation in our county, and
- * Develop a regional non-toxic bio-control program for the medfly.

(The signatures are held in the committee files.)

Mr. STENHOLM. Mr. Smith.

Mr. SMITH of Oregon. Mr. Chairman, I apologize for being late. Thank you. I have a statement that I would submit for the record, and I especially want to thank you for holding these hearings.

[The prepared statement of Mr. Smith of Oregon follows:]

STATEMENT OF
ROBERT F. SMITH
BEFORE THE
DEPARTMENT OPERATIONS AND NUTRITION SUBCOMMITTEE
MAY 5, 1994

Mr. Chairman, thank you for calling this hearing today. The potential infestation of the Medfly and other exotic pests is a tremendous threat to our nation's agricultural production and their ability to provide consumers with a safe, wholesome, affordable and abundant food supply.

Today's hearing will provide us an opportunity to examine the many dimensions of this challenge, from border intervention to eradication. The United States has been battling exotic pest threats to fruit production since the 1920s, and the significant resources, over \$300 million, devoted to this ongoing effort reflect the high value we place on continued availability of these products.

The economic activity in California which is threatened by Medfly infestation is valued at \$1 billion dollars, but the potential harm spreads beyond that state's borders. For instance, recent efforts to gain market access in China for Oregon's pears and apples have been complicated by concerns about the Medfly. Oregon's growers and shippers, despite the fact that there has been no infestation in Oregon, are facing problems with buyers in virtually all of the lucrative Pacific Rim markets.

I understand the worries that have been expressed by our suburban neighbors regarding aerial spraying. This aspect of our eradication strategy can be quite disrupting to our everyday routine. This is why it should only be implemented when necessary and in that case limited only to the extent required to successfully accomplish the pest control goals.

The expense of this program, coupled with the inconvenience it causes in citizen's everyday lives, provides a strong argument for aggressive efforts to protect our borders from the unlawful importation of products which result in medfly infestations. While this effort involves the enforcement efforts on commercial shipments and individual international travelers, its success can be significantly enhanced by widespread public understanding of the problem and the necessity for all of us to cooperate in the protection of our agricultural production. If nothing else, the public attention to this eradication effort serves this education process.

Again, Mr. Chairman, thank you for calling this hearing. I look forward to the testimony of today's witnesses and their responses to the Committee's questions.

Mr. STENHOLM. Thank you. We will call the first panel. The Honorable Patricia Jensen, Acting Assistant Secretary for Marketing and Inspection.

Madam Secretary.

Ms. JENSEN. Thank you, Mr. Chairman.

Mr. STENHOLM. I understand that you are accompanied by three individuals today, Mr. Lee and Mr. Smith. And is it Mr. or Ms. Jackpot? Mr. Jackpot.

STATEMENT OF PATRICIA JENSEN, ACTING ASSISTANT SECRETARY, MARKETING AND INSPECTION SERVICES, U.S. DEPARTMENT OF AGRICULTURE, ACCOMPANIED BY B. GLEN LEE, DEPUTY ADMINISTRATOR, PLANT PROTECTION AND QUARANTINE, ANIMAL AND PLANT HEALTH INSPECTION SERVICE; HAROLD T. SMITH, ENVIRONMENTAL PROTECTION OFFICER; AND LESLIE G. RUBIN, TOXICOLOGIST, BIOTECHNOLOGY, BIOLOGICS, AND ENVIRONMENTAL PROTECTION

Ms. JENSEN. Thank you, Mr. Chairman. I am pleased to be here today and to speak to the subcommittee about the cooperative and comprehensive medfly eradication program. The Animal and Plant Health Inspection Service welcomes this opportunity to discuss the program. The full text of my written statement has been submitted for the record.

Mr. STENHOLM. Without objection, all of the written statements will be made a part of the record and we will appreciate a summation.

Ms. JENSEN. Thank you, Mr. Chairman. You have mentioned Glen Lee is here today; he is the Deputy Administrator for Plant Protection and Quarantine; and Harold Smith, who supervised the preparation of the medfly program environmental impact statement. And I also have here with me Leslie Rubin, who led the development of the human health risk assessment of APHIS fruit fly programs and they, too, will be available to answer any questions that you might have.

The cooperative medfly eradication program is one of the most publicly recognized programs in our history. It has evoked sincere concern that does not always reflect an understanding of the program's root in science and its benefit to consumers, the economy, and U.S. agriculture. Today, I would like to focus on the program's scientific rationale and the very real economic impact we will feel if we ignore this pest. I would also like to address things we can do to prevent medfly infestations from happening in the future.

APHIS and the California Department of Food and Agriculture have worked on several medfly eradication programs over the years, and together we convened a panel of fruit fly experts to study the medfly program and to evaluate options for the future. We did this because despite our best efforts to keep medflies out of the country, they do continue to appear.

And APHIS has a long track record of excluding pests through its work at international ports of entry. We inspect all commercial shipments of fruits, vegetables, meats, and other products. We work at border crossings to survey visitors and their vehicles for prohibited materials, and as we will demonstrate later, we use our

beagle teams at airports to sniff out fruit, vegetables, and snacks inside passenger baggage.

Last year about 150 million international travelers entered the United States and 80,000 vessels entered U.S. ports. Even our best efforts have not been enough to keep the medfly out. So based on the panel's best assessment, we adopted a new strategy.

What the panel recommended was switching from a site-specific to an areawide approach. The basic difference is that instead of viewing the Los Angeles basin as many independent outbreaks and treatment zones, we are now treating this as a single areawide problem. We have, for many years, used an integrated pest management approach to our eradication efforts.

IPM incorporates a variety of chemical, biological, regulatory, and cultural controls. We remain committed to using IPM. But now we are applying it on a larger scale. When we established the current quarantine and sterile release zones in the L.A. basin, we did so by identifying the areas where we recently found flies and included that entire area in the sterile release zone.

What we have now is a 1,500 square mile quarantine zone and within that a 1,450 square mile sterile insect release zone. Each square mile in the sterile release zone receives at least 250,000 sterile flies each week, while a number of hot spots receive double doses of flies. We are producing about 550 million sterile flies a week for use in this effort, which is the combined production of both APHIS and the California Department of Food and Agriculture facilities in Hawaii.

We are augmenting this amount with about 200 million flies a week from Mexico and Guatemala. By releasing sterile flies continually over the L.A. basin for the next 10 to 15 fruit fly life cycles, or 2 years, the wild flies will eventually die off. In developing this strategy we made two carefully considered decisions.

First, we are releasing all available sterile flies in the Los Angeles basin. This is a high-risk area for medfly introductions and we must stick with this strategy for the full 2 years in order to ensure eradication.

Second, if medflies are found outside the L.A. basin, we will have to consider other control strategies. This is what happened in Corona. The decisions we make on the type of program to implement are guided by long-proven scientific principles, risk analysis and cost benefit studies. We seek advice from some of the most renowned fruit fly scientists in the world; we have gone to great lengths to conduct comprehensive studies of the program's potential impact to the environment and to public health.

To support the program in Corona, APHIS and CDFA public affairs officers are carrying out a massive education effort to raise awareness about how to prevent the spread of fruit flies in the region. In addition, these officers have held a number of briefings for the press, the public and legislators in California and here in Washington. Project officials have made every effort to see that every household in the treatment area is notified before each application.

Also, the medfly project has established a toll-free hotline to provide up-to-the-minute information about the program and the spray

schedules. To date, this hotline has received more than 21,000 calls.

Now, you may ask, just as your constituents have asked you, why is this program so important? And the reason is that California's economy, and to a large extent the Nation's economy, is driven by the sale of agricultural products. The food and fiber industry in this country constitutes about 16 percent of the gross domestic product, and provides jobs for hundreds of thousands of people. If the medfly becomes established in California, the economic impact to that State alone is estimated at \$577 million per year.

If it becomes established throughout its potential range in the United States, the estimated economic impact would be \$1.5 billion annually.

If the medfly were established in California and we did not try to eradicate it, overall pesticide use would increase dramatically. Also, the consumer would have to bear the cost of production losses. Many popular fruits and vegetables, such as apples, apricots, grapes, peaches, plums and citrus and tomatoes could not only cost more, but be of inferior quality.

Consumers could pay more and get less for their money and face increased exposure to pesticide residues. Equally important are the foreign markets where we sell billions of dollars worth of produce every year. The Japanese Government has several times expressed concern over the medfly find in Corona. If there is evidence that the medfly is established in California, the Japanese Government could ban California agricultural products. The loss of this market alone would represent a \$309 million annual loss for the United States as a whole. California produces more than half of those exports.

Other countries would be likely to follow Japan's lead. So the need for medfly eradication in southern California is clear. As we pursue this important goal, I remind you that the reason we must eradicate the medfly now is because someone has unlawfully brought infested fruit into the mainland United States from somewhere else.

We will continue to work at international ports of entry to check incoming shipments, passengers, and luggage for prohibited fruits, vegetables, and other items. We have a high rate of success in this endeavor, thanks in large part to our beagle brigade teams.

In addition to being an effective tool for detecting forbidden fruit items in passenger baggage, the USDA beagles create curiosity about their role. We plan to make the beagle brigade the cornerstone of a long-term comprehensive effort to create a consciousness among travelers about the harm that is caused by foreign agricultural pests and diseases. We believe the beagles can become as familiar as Smokey Bear and can remind people of what they can do to safeguard our food supply.

We have arranged for you to meet one of our officers and his canine partner. The officer is Frank, actually, and his canine partner is the beagle, Jackpot. They are waiting right here and I will be pleased to bring them in for a demonstration now, if that is OK, Mr. Chairman. With that, I will conclude my remarks, because they become irrelevant once the dog enters the room.

Thank you.

Mr. STENHOLM. I am glad you said that before I did.

Ms. JENSEN. Go ahead.

Mr. TULLY. Jackpot is a 4-year-old beagle. We got him at a pound in New Jersey. We get all of the dogs from the pounds and HPCA's. During the initial training we try to get them to identify eight different odors ranging from vegetables all the way up to birds. With the suitcases we have to train with nontarget and target odors. A target odor would be something that it would be concerned about as in the USDA for me to take a look at and see regulations on, it would be allowed entrance into the country. Nontarget odors would be like chocolate and breads.

So he is naturally inclined to hit on the food; we use the hound beagle because of his food tolerance. Now, he has a high food drive. We use a little food, a little treat once he finds that agricultural product in the suitcase. He is a passive dog so he works with the passengers and with the passenger's bags off the belt at the international arrivals area. What he does is points out the bag to see if there are any concerns with plant protection quarantine acting at an international level.

What I have here is a couple of suitcases empty, a couple I think with ground coffee and chocolates and some breads. Right here in this suitcase I put in a package of meat that I just got and the meat in here is in, I think that brown bag. What I will do is mix it up and see if he can find it. I will set it up right here.

Ms. JENSEN. Mr. Chairman, I might add that all of our dogs have medical insurance and a retirement plan at the Department of Agriculture.

[The dog is now sniffing the suitcases.]

Mr. TULLY. Which one, Jackpot? Which one? Tell me again. OK. He got some—these are the plums. This is not the meat. I have two target bags out here. We will try out these right over here. What about these? Now he is going to get his reward because he found it in the bag. Good boy.

Ms. JENSEN. Thank you, Mr. Chairman. That concludes my remarks.

[The prepared statement of Ms. Jensen appears at the conclusion of the hearing.]

Mr. STENHOLM. Next we will hear from Mr. Victor J. Kimm, Deputy Assistant Administrator, Office of Prevention, Pesticides, and Toxic Substances, EPA.

STATEMENT OF VICTOR J. KIMM, DEPUTY ASSISTANT ADMINISTRATOR, OFFICE OF PREVENTION, PESTICIDES, AND TOXIC SUBSTANCES, U.S. ENVIRONMENTAL PROTECTION AGENCY

Mr. KIMM. Thank you, Mr. Chairman. I have been a witness on the Hill many times in recent years, but this is the first time I have ever found myself upstaged by a beagle. We will try to be as brief as we can here so we can have time for questions.

Good afternoon. I am very pleased to be here and talk about EPA's role in the medfly eradication activities. EPA shares the public's concern regarding human exposure to toxic chemicals that present any potential risk to human health. Although no one wishes to encourage widespread application of pesticides, we have

looked very carefully at the current situation and concluded that the potential risks to public health and the environment from the current use of malathion in the medfly control programs are negligible.

Moreover, we have a concern that if the medflies were not contained and were in fact to become widespread pests in agricultural areas, it would result in much higher pesticide use and potentially higher levels of pesticide exposure to many more people.

Regarding the regulation of pesticides, as you all are well aware, those responsibilities are shared at the Federal and State levels under FIFRA. At the Federal level, we are responsible for registering pesticides, setting health and safety standards and tolerances and enforcing basic requirements that apply nationwide.

Also under FIFRA, the States play a role, both in establishing specific registrations to meet local needs and for authority to request emergency exemptions to deal with unusual circumstances that have potentially significant impacts.

The chemical we will be talking about today was registered initially in the 1950's. It has been applied to a large number of agricultural and nonagricultural uses, including mosquito control and is readily available across the counter today in hardware stores. To support these uses, we have looked at the risks and benefits associated with this chemical. There are over 500 separate studies that have been assessed, and the data supporting our continuing assessment is fairly robust.

Nevertheless, under the reregistration program created by the 1988 FIFRA amendments, we have asked for, and the work is underway, to develop additional information that will provide greater insights, both in terms of chronic toxicity, the question of potential adverse ocular effects, residue chemistry and environmental effects. Again, these studies which are to be completed by December of 1995 will give us a better understanding of the full range of potential impacts. However, we believe that we have a good deal of data with which to arrive at our current assessments and conclusions that malathion does not pose unreasonable health or environmental risks when used according to label directions.

If I might turn then quickly to the local needs registration. Under FIFRA, the States have the authority to issue special local needs registrations when necessary tolerances for that chemical have been established. And in fact, in 1983, I believe California did in fact issue a relevant section 24(c) registration to deal with the medfly.

Under the statute, the agency has 90 days to assess the State's action, which we did at the time, and we did not find any reason to deny California's special local needs registration, since we found no unreasonable risks that would be posed by these applications. At that time, we noted that the malathion application rates, that is the concentrations that would be used under these sets of circumstances, are fully 4 to 15 times lower than those rates of malathion applications that are common in agricultural practices.

In 1992, we were asked to grant a section 18 emergency quarantine exemption. Under that provision of FIFRA, we are given authority to grant waivers from the other sets of requirements within

FIFRA to deal with emergency conditions. The reason that this became important is that during widespread applications, although some of the crops would have tolerances and could be covered by the State's action, there were others that did not, and so there was a requirement for an additional review for a small number of crops that could be impacted by this spraying.

At that time, the agency conducted a fairly thorough and careful assessment of the available data. Among the other documents that were carefully reviewed was the California Health Department's fairly exhaustive study of potential health risks, looking at some 25 scenarios of potential exposure patterns using modeling and a vast amount of data. I think this report was widely discussed and debated within the State and elsewhere, and we share the view that with its ultimate findings, that the risks were clearly negligible under most sets of circumstances. In certain cases and circumstances where the potential risks become troublesome, we found that the potential exposure could be mitigated by activities that people could take if they knew about them. That is why notification has been such an important part of this activity.

We also, in our response, indicated that we would view or recommend that the medfly eradication effort look first toward integrated pest management techniques and then to ground spraying and then to aerial spraying, because of the increasing potential for risks that we saw with the program.

If I might conclude then, it is to say that we strongly encourage the use of integrated pest management. This administration has been very vocal with this committee and elsewhere in its commitment to try and reduce dependency on the traditional pesticide chemicals with greater emphasis on integrated pest management and some of the newer pesticides that are entering the marketplace. We recognize the extreme level of concern that accompanies pesticide application where pesticide exposure ends up with an involuntary set of circumstances. Thus, we, among others, the State health department, many of the local governments, many citizen groups are very carefully monitoring for any potential sign of an adverse either health or environmental, impact in the treated areas, and if in fact those circumstances were to develop, we would in fact take regulatory action as would be appropriate.

However, on the basis of our most recent evaluation of all of the information currently available, we continue to believe that the potential risks to the public health and the environment from the use of malathion in the medfly eradication program are negligible.

Thank you very much.

[The prepared statement of Mr. Kimm appears at the conclusion of the hearing.]

Mr. STENHOLM. Next we will hear from the Honorable Mike Chrisman, under secretary of the California Department of Food and Agriculture.

Mr. Chrisman.

**STATEMENT OF MIKE CHRISMAN, UNDER SECRETARY,
CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE**

Mr. CHRISMAN. Thank you, Mr. Chairman.

I appreciate the opportunity, like my colleagues here at the table, to provide some input at this critically important hearing today. The eradication of the medfly is indeed a complex issue which, of course, when requiring aerial application of malathion and bait to achieve success, certainly generates a great deal of publicity and public concern. In the midst of the controversy surrounding the medfly, the scientific foundations upon which the nature of the program is based is often overlooked.

I would like to reinforce the perspective that USDA—my colleagues at USDA have already provided that this program is based on sound scientific principles, and that its success is vital to the economy and the environment of the State of California as well as the United States.

California supplements USDA's exclusion efforts with border stations, parcel inspections, and public education in an effort to reduce the amount of fruit fly infested produce entering the State of California. We maintain what many consider the best detection trapping system in the world in an effort to find pest infestations such as medfly at the earliest possible stage. Despite our intervention, there have been a number of medfly infestations in recent years.

The current program that we are undertaking in Corona recommended a very proactive approach: The basinwide release of sterile medflies for 2 years at a rate of 250,000 per square mile, Ms. Jensen already indicated, with an additional 250,000 per square mile around existing fly-find sites known as the core area. The State department of food and agriculture concurred with USDA in making the decisions to accept their recommendation in this regard.

To accomplish the job it required combined capacity of the California Department of Food and Agriculture and USDA sterile medfly rearing laboratories in Hawaii. Their labs are currently providing the numbers indicated by Ms. Jensen, 575 million plus another 100 million to 150 million flies on a weekly basis.

When the discovery of the mated female fly in the Corona area was made, we had already begun to implement our program in that area. In implementing the program at Corona, we have directed the staff to make extensive efforts to reach out to the public to describe the importance of the project, and provide them with information regarding the use of malathion.

The California Department of Health Services has stated that there is no significant health risk associated with the use of malathion as applied by this program. We have provided a notice to the residents of the area prior to each application, either by door-to-door delivery or by first class mail.

We have made intensive efforts to notice the homeless population in the area by visiting shelters, food closets and dining halls, and by posting notices in locations where homeless persons are known to congregate. We have worked with local agencies and homeless advocates to make sure the notice reached the entire homeless population.

In support of the public information campaign, we operate a phone bank, that has already been alluded to, to provide up-to-the-minute information on project operations, and to answer health questions regarding the applications. Phone banks are supported

by medical experts from the department of food and agriculture and the State department of health services.

Callers with health questions or concerns too complex for the phone bank staff are referred to these experts. State department of food and agriculture provides the funding to the department of health services for follow-up investigations on residents claiming to have medical symptoms as a result of this application.

Another aspect of the Corona program is the use of environmental monitoring on our application method. We test the bait spray before each application for the percent malathion. Dye cards are used to measure the deposition of material, as well as the monitoring of air, water, and soil, conducted under contract with the California Department of Pesticide Regulation.

We do this to identify any problem so that they can be corrected, as well as to provide an outside review of our entire spray operations.

We join our colleagues in indicating that the eradication of the medfly in California can be accomplished. The overwhelming majority of scientists which have studied California's situation feel that a permanently established population does not exist, and that the current infestation can and should be eradicated.

The University of California has published a study on the economic impact of medfly on California. Their estimate of the potential annual cost of a permanent medfly infestation ranges from anywhere from \$500 million to \$1 billion annually.

The medfly is not just an agricultural problem. As described by USDA, there is also an impact on the urban population due to the increased use of pesticides and the loss of backyard fruits and vegetables. Beyond that, there is an environmental impact of the increase in pesticide use.

Homeowner pesticide usage is not strictly regulated as is the case in commercial agriculture. Excess usage will have a detrimental impact on water quality and nontarget organisms.

The California Department of Food and Agriculture and the U.S. Department of Agriculture have combined to implement a safe and effective program to eradicate the medfly in California with every chance of achieving success.

Mr. Chairman, thank you for the opportunity to testify today and I look forward to questions.

[The prepared statement of Mr. Chrisman appears at the conclusion of the hearing.]

Mr. DOOLEY [assuming chair]. Thank you, Mr. Chrisman. We will now hear from Mr. Shulock who is the assistant secretary for policy and development with the California Environmental Protection Agency.

Mr. Shulock.

STATEMENT OF CHARLES M. SHULOCK, ASSISTANT SECRETARY, CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

Mr. SHULOCK. Good afternoon, Mr. Chairman and members. I am Charles Shulock, assistant secretary at the California Environmental Protection Agency. Thank you for the opportunity to address the committee regarding Cal/EPA's role in the medfly eradication program in southern California. I have submitted a written statement which I will briefly summarize for you now.

The mission of the California Environmental Protection Agency is to improve environmental quality in order to protect public health, the welfare of our citizens, and California's natural resources. Cal/EPA's role in support of the medfly eradication program is twofold. We ensure that the application of the malathion conforms to all applicable Federal and State requirements, and we provide scientific and technical evaluation of its environmental and health effects.

More specifically, our department of pesticide regulation or DPR handles environmental monitoring, use enforcement, and special registration aspects of the program. Environmental monitoring is conducted by the environmental hazards assessment program. This monitoring is not required by law or regulation, but is done to confirm the effectiveness of applications and ensure that public health is protected.

The monitoring program collects air samples and samples taken from surfaces upon which the bait mixture has been deposited. These samples, generally taken at hospitals, schools, and private residences, are collected and analyzed for malathion and malaoxon, which is a breakdown product of malathion.

In addition, samples have been collected to provide information about the amount of malathion and malaoxon on playground sand, edible vegetation, and other priority sites.

Enforcement is provided by DPR's pesticide enforcement branch, which ensures that personnel from the California Department of Food and Agriculture and agricultural pest control businesses using malathion to eradicate fruit flies comply with pesticide laws and regulations. The county agricultural commissioner is the local agency responsible for enforcing laws and regulations. DPR works directly with the commissioner's office, coordinating their activities and providing oversight.

DPR and commissioner staff inspect the pest control operator's business records, pesticide use records, worker safety program, and storage facilities to determine compliance with pesticide laws and regulations.

As Mr. Chrisman mentioned, enforcement branch staff also collect a sample of the malathion product from each lot to be used in the project. The product is analyzed to determine whether it is formulated properly.

DPR staff also collects samples of each tank of diluted malathion mixture to determine whether the pesticide was mixed according to the label instructions. During the project, the commissioner's office and the pesticide enforcement branch personnel are on site to monitor pesticide operations and ensure compliance with State and Federal laws and regulations.

With respect to registration, Mr. Kimm has discussed those issues. Suffice it to say that DPR has taken the appropriate steps to ensure that all needed approvals have been obtained.

Turning next to health evaluation, the lead Cal/EPA role is performed by our office of environmental health hazard assessment. This office provides scientific and technical expertise and public health oversight in assessing the human health risks posed by hazardous substances in the environment.

The office's current malathion-related activities build upon previous evaluations, all of which have concluded that the eradication projects present no significant public health risks. The most recent major evaluation was undertaken by the State department of health services in late 1989 and published in February of 1991. This state-of-the-art risk assessment involved a review by over 30 staff scientists of some 2,300 citations from the published literature, as well as unpublished data base on malathion toxicology.

The department of health services also convened a malathion public health effects advisory committee modeled after a successful advisory committee convened during the 1981 Santa Clara medfly eradication program.

The results of this 1991 risk assessment were summarized in a consensus statement drafted by the department of health services, the California Department of Food and Agriculture, and Cal/EPA. Before referring to that statement, it is worthy of note that the concentration of malathion used in the current eradication program is less than one-half of the amount that was used when the 1991 risk assessment was prepared, further reducing the already small potential for adverse effects. In other words, the conclusions that I am about to quote are based upon an analysis that assumed an application rate more than double the rate that is in use today.

With that in mind, I would like to quote from the relevant sections of the consensus statement: "The 1991 consensus of the department of health services and the malathion public health effects advisory committee was that the risks to public health posed by malathion bait, as used for eradication of the Mediterranean and Mexican fruit flies, are outweighed by the health risks of not eradicating. Individuals claimed a number of potential health effects which were investigated. Skin testing of individuals who reported rashes following aerial spraying in 1989 and 1990 showed that some individuals may have had mild skin irritation of limited duration. Importantly, it was concluded that it is very unlikely that malathion causes major chronic health effects such as cancer and birth defects, concerns about eye disease were found to be unwarranted, and pesticide poisoning and other serious effects did not occur."

The reorganization that created Cal/EPA took effect in July 1991, following the release of the February 1991 health risk assessment. The department of health services staff that had coordinated the previous activities were transferred via the reorganization to the newly created office of environmental health hazard assessment in Cal/EPA. Pursuant to an interagency agreement, this office now provides technical support to the department of health services when eradication programs are implemented by the department of food and agriculture. In that capacity, our staff are preparing a

supplemental risk assessment for malathion coproducts, and accompanied the department of health services to public meetings in southern California during the initial stages of the current 1994 medfly eradication program.

The office also is required to provide annual reviews of the scientific literature on malathion in an effort to reevaluate the results of the 1991 risk assessment document. To date, no new experimental evidence has emerged that would change the results and conclusions of the 1991 risk assessment.

Thank you once again for this opportunity to describe Cal/EPA's role in the eradication program, and I would be pleased to respond to any questions.

[The prepared statement of Mr. Shulock appears at the conclusion of the hearing.]

Mr. DOOLEY. Thank you all very much. Mr. Kimm, I just have a few questions. You said that California had to request from EPA—is it a section 18, in order to engage in the malathion spraying?

Mr. KIMM. You need both, the 24(c) decision which was made, and as I said, I think it is 1983, and that needed to be augmented by the section 18 emergency which we did in fact issue in 1992, I believe.

Mr. DOOLEY. And it was the EPA's determination in granting that permit that the method in which the State of California was requesting or undertaking the order to provide for the spraying of malathion posed no significant health risk to any of the population?

Mr. KIMM. Right.

Mr. DOOLEY. I also have a question for Ms. Jensen. Is malathion used very extensively for any other public health problem such as mosquito or tick abatement or anything of that nature?

Ms. JENSEN. Mr. Chairman, yes, in mosquito abatement, if you would like any details about that, Mr. Lee could provide them.

Mr. DOOLEY. What I am interested in trying to determine is whether there is a history of malathion use which can be used to draw very conclusively that there is very minimal health risk. Is there past history on this regard, in other than medfly use?

Mr. LEE. Mr. Chairman, yes, there are numerous studies that have been conducted relative to the use of malathion on public health programs such as mosquito abatement programs. There are also other programs within the Department that use malathion as a spray control method. Mediterranean fruit fly isn't the only program in which malathion is used as a control methodology.

Mr. STENHOLM. Mr. Dooley, why don't you continue.

Mr. DOOLEY. Thank you, Mr. Chairman.

Mr. Shulock, we are going to hear testimony a little later from the city of Corona that also references the department of health service study that was published in 1991, which came to the conclusion again, there were no significant health risks from the use of malathion by the State of California. However, the testimony also says that DHS stated that a subpopulation of potentially sensitive individuals such as children, aged individuals, and individuals with certain preexisting diseases could be in some cases, with average exposures to malathion, be at risk of exhibiting some adverse health effects from aerial malathion application.

I am having trouble understanding how this correlates with your comments. Did DHS conclude that there were in fact potential health risks?

Mr. SHULOCK. The conclusion of the report was that the health of the general urban population is not at significant risk. There was a discussion of the subpopulations where there could be a theoretical risk. The conclusion on that, referring back to the consensus statement that I read earlier, was that with simple precautions such as remaining indoors during application, rinsing off outdoor play areas, washing the skin and clothing properly, other such things would provide adequate protection to all individuals, including those most sensitive and those most exposed in an area of aerial malathion bait application. So we continue to feel that there is no significant risk from that, particularly if common sense precautions are followed.

Mr. DOOLEY. Ms. Jensen, one of our colleagues, Congressman Brown, also wrote to USDA late last year concerning some concerns that he had regarding the human biomonitoring studies of residents that may be conducted in the coming months in medfly-sprayed areas.

I would assume that we do at times monitor, but are we using the citizens in these areas as guinea pigs?

Mr. LEE. There was a concern raised by a number of concerned citizens, as you have indicated, through the correspondence by Mr. Brown, which in fact was not reality. There were no studies conducted, planned, or required to be conducted in that regard. We did monitor and continue to monitor all of the reports by the citizens at medical facilities to be sure that that information gets to EPA, Cal/EPA so that a proper assessment can be made and determinations can be made, and I believe that the result of those reviews would bear out what the gentlemen have already testified to.

Mr. DOOLEY. Thank you.

Mr. STENHOLM [resuming chair]. Mr. Allard.

Mr. ALLARD. Sorry I missed some of your testimony. Just reviewing some of the notes here before me, is malathion the only pesticide you use for the fruit fly eradication?

Mr. LEE. Mr. Chairman, malathion is the only material that is used as an application, other than to the soil at the base of trees in which we find larvae.

Mr. ALLARD. So you treat the larvae also with the malathion at the base of the tree?

Mr. LEE. The soil is treated; we don't actually treat the larvae, but if the larvae are in the soil under the tree, they are in fact treated.

Mr. ALLARD. Do you use malathion or Dursban?

Mr. LEE. Dursban, yes.

Mr. ALLARD. Have you had any reported cases of malathion poisoning related to this application?

Mr. SHULOCK. We are not aware of any following the 1989, 1990 episode, nor are we aware of any currently.

Mr. ALLARD. So you have not had any problem with malathion application, and at least any reported problem. And so what is your plan of action from this point on as far as the use of malathion?

Mr. LEE. We believe that the judicious use of malathion on fruit fly problems is an acceptable methodology, not the preferred one, but an acceptable one, in concert with the use of sterile flies. It is the agency's position—I will speak for USDA and CDFA may speak for itself—that given the consideration for the environment, for protection of agriculture, for human health, that the judicious use of malathion to knock down an initial population of fruit flies followed by the release of steriles is the preferred course of action. We make very limited use of malathion in our pest programs.

Mr. ALLARD. And is it working?

Mr. LEE. Yes, sir. It works quite well.

Mr. ALLARD. And so now the Japanese and those people who have threatened or expressed concern, let's put it that way, about fruit from California, for example, are satisfied that you do have the insect under control?

Mr. LEE. At the moment the answer is in the affirmative. We have had quite a difficult time with various trading partners, Japan being the most important one at the moment. They accept that the program that we have in place is working, yes.

Mr. ALLARD. And so you don't have any other alternative other than malathion, it is the safest product that you have currently available on the market. It does work. You haven't had any toxic problems with malathion?

Mr. LEE. That is correct, we have not.

Mr. ALLARD. And so what is the concern raised by those who oppose use of malathion?

Mr. LEE. The concern, as we understand it, is in the notification process, that a decision was made to spray and that proper notification was not given to citizens of the city.

Mr. ALLARD. So those that maybe had problems needed to be made aware of that so that they could take proper measures to prevent exposure themselves, so that was what your attempt would have been and what their concern was; is that it?

Mr. LEE. We attempted to get the message to every citizen in the area that is affected. We had town meetings, we had meetings with officials of the city; we had newspaper articles, television spots, phone banks. So we attempted to convey the information.

Mr. ALLARD. Are you having any problem with the Environmental Protection Agency or any of the agencies that oversee the application of malathion?

Mr. LEE. I will let Ms. Jensen answer that question.

Ms. JENSEN. No, we are not.

Mr. ALLARD. So you are not having any problems with the program?

Mr. KIMM. No. We have—none, we are not having any problems with their program. I spoke to this I think a little bit earlier.

Mr. ALLARD. So you are comfortable with what is going on in California.

Mr. KIMM. With the information that we presently have, yes, we believe this does not constitute an unreasonable risk and fully is within the parameters of FIFRA.

Mr. ALLARD. And the information that you presently have is information that has been accumulated over a number of years. Malathion isn't a new product on the market. It has been here for a long time.

Mr. KIMM. There is a good deal of information.

Mr. ALLARD. There are volumes and volumes and volumes of scientific evidence about the use of malathion as an insecticide.

Mr. KIMM. Yes.

Mr. ALLARD. Thank you very much, Mr. Chairman.

Mr. STENHOLM. Mr. Calvert.

Mr. CALVERT. Thank you, Mr. Chairman. To dispense with the matter of media concern of all parties, I would like to sidestep protocol for a moment and ask my first question to Mr. Chrisman from CDFA.

Mr. Chrisman, as you know, I sent a letter to Governor Wilson a couple of days ago asking him and your agency to carefully examine the scientific data from the Corona-Norco area, and it is my hope that in light of that data, and weather permitting, we could have an announcement of the schedule for the final two sprayings terminating the program at eight sprays. Is that possible?

Mr. CHRISMAN. Mr. Calvert, we have completed six sprayings in the program as of now. The seventh spraying is scheduled to be undertaken next Tuesday. The final spraying we are ready to announce today; the eighth spraying on May 24, will take place. We view, based on the heat unit detection model that we have been using throughout this spray program, that we are on very sound biological grounds in saying we can in fact conclude the spraying as of May 24, with two caveats.

One caveat being that the weather does not get cooler than—significantly cooler than it already is, thereby slowing down the life cycle of the medfly, and two, that we have no further medfly finds in that spray area, both of which we are very hopeful will not occur and we will go ahead and terminate the spraying on the 24th of May.

Mr. CALVERT. Thank you. Thank you for that news.

Mr. Chairman, with the consent of the subcommittee, I would like USDA to take the lead on writing a report due back to the committee in 30 days after the spray program is completed in the Corona-Norco area. This report would be compiled of an ad hoc group comprised of representatives from APHIS, CDFA, Cal/EPA, local government, local agricultural and community leaders.

They would examine the period from November of 1993 to the end of the spray program with an eye toward evaluating and improving, one, the decisionmaking, education and outreach, allocation of funds for exclusionary efforts, research and notification of local governments and communities.

Do you think that that would be possible?

Mr. STENHOLM. We would have to take that under advisement. What I do believe we can do is to ask the Department to respond to any questions you might submit.

Ms. JENSEN. Yes, Mr. Chairman, we would be happy to.

Mr. STENHOLM. But I would hesitate to agree to that lengthy a request and a study without knowing a little bit more information rather than just hearing it for the first time a moment ago.

Mr. CALVERT. Sure.

Mr. STENHOLM. Let us work together and work with the Department in responding to the questions in a timely way.

Mr. CALVERT. OK.

To focus on the future for a moment, I would like to ask the four agencies represented, particularly APHIS and CDFA, if they would commit to working with my office on an immediate educational effort, in and around the spray area, to inform people of the restrictions on bringing or mailing fruit or vegetables into the United States. If this infestation occurred because of some traveler unwittingly brought some contaminated fruit into my district or into the Corona area, the little that we have done will educate the person not to do it again next week or next month.

Do you think we could accomplish that?

Mr. LEE. From USDA, Mr. Calvert, we would be most happy to do that. We think that would be a very effective way of getting specific information to the constituency within your area. We would be quite happy to work directly with you and others throughout southern California to do that same thing.

Ms. JENSEN. Mr. Calvert, I would like to say that while we all think that the beagles are cute, and it is a very light hearted event when they come into the hearing room, I want you to know that we take them very seriously and we have increased their numbers in your State and around the country. Their popularity and the attention that they can draw to this issue can help us, because we, quite frankly, need to explore every way we can to get information out to the public, that this is indeed a very serious issue: Our food safety and our agricultural economy can be jeopardized if we aren't very careful here.

Mr. CALVERT. Thank you.

Mr. CHRISMAN. Mr. Calvert, on behalf of the California Department of Food and Agriculture, I can only second what Ms. Jensen just said. We can't overstate the serious nature of this pest and we will do everything under our power in conjunction with USDA to help you in this effort.

Mr. CALVERT. One of the questions—so we are not here 10 years from now discussing the same issues—what would it take in funds and personnel to do a successful job of exclusion and sterile fly production?

Mr. LEE. Mr. Calvert, USDA believes that it could increase the capacity of its production facilities in Hawaii. As a matter of fact, doubling the capacity from the current 400 million flies per week capacity to 800 million flies per week capacity would require in conjunction funds somewhere in the neighborhood of \$6.5 million to \$7 million. And then an operating budget to maintain that over the years of about \$10.2 million to \$10.4 million per year annually. That would provide a total of somewhere in the neighborhood of about 800 million flies per week capacity, which should take care of potential problems in the future.

Mr. CALVERT. It seems that additional funding for moving the APHIS user fee account off budget, thus allowing APHIS to hire more inspectors required to meet the demands of a successful exclusionary process. Could you comment on a user fee program,

where it comes from and what it is used for, how much of APHIS efforts are directed toward plants and how much for animals?

Ms. JENSEN. We can provide you with those exact numbers, but I don't have them here, although we do have our current budget for exclusionary activities available that we could give you. But I don't have the exact animal number with me.

Mr. CALVERT. Right now what are the fines for travelers carrying fruit and vegetables and plants illegally in the United States?

Ms. JENSEN. Those fines can range from \$50 to \$1,000. And by the way, we do have legislation that we are drafting which would increase that amount.

Mr. CALVERT. Given this, what we are here today for and the cost that must be enormous in California right now, should the fines escalate don't you believe for the second and third violations?

Ms. JENSEN. Mr. Chairman and Mr. Calvert, yes. That is what I said, we are currently working toward that end, yes.

Mr. CALVERT. And that includes the escalation of fines for the second and third violation? What are the fines that you are asking for?

Mr. LEE. I do not believe, Mr. Calvert, that it includes a secondary and tertiary level of fines, due to the infractions, but it is a higher level of fine initially.

Mr. CALVERT. Would the fines that you need—do you need legislation to do this or could you do this administratively?

Mr. LEE. Yes, we need authorization legislation to do that.

Ms. JENSEN. And as I said, we do have that drafted and we will be sending it up fairly soon.

Mr. CALVERT. If we get this increase in fine revenue, where do those funds go?

Mr. LEE. Those go to the general fund, Mr. Calvert, and our counsel indicates that in addition to the civil penalties in which we are now talking about, the Department also has the authority under the criminal penalty and that the fines for that are considerably higher than those that we just articulated.

Mr. CALVERT. Have there been advances most recently in detection equipment that is to be used at airports and port facilities?

Mr. LEE. Mr. Calvert, we are in the process of either generation two or generation three x-ray equipment. We recently awarded a contract for the development of new technologies. We use at ports of entry present, up-to-date x rays in the technology that we use, but constantly seek new technologies all the time.

Mr. CALVERT. We saw the beagle brigades here earlier. Do you have those at most post offices or entry points, and how effective are they for the costs that goes into them?

Mr. LEE. The beagles are extremely effective. We do have them at almost all of the major international gateways. We have currently in APHIS a total of 48 canine teams at various locations. We use them in post offices on an intermittent basis. We only have two locations in which we have the dogs working post offices full-time. They are extremely effective.

I do not have those statistics with me. We can submit those, but it is in excess of 85 percent of the time. When the dog indicates that there is something in a package or a bag, there is something that needs to be removed from that package or bag.

Mr. CALVERT. Is there a need to revise the laws governing inspection of first-class mail once you find out that you believe or suspect that something is in it, or private carriers like Federal Express or UPS?

Mr. LEE. With first-class mail, which is a different issue, we believe that we would need to review what our authorities are under that particular requirement. We currently are required to seek a Federal warrant for getting into first-class mail material, and must do that each and every time that there is an indication that we should look at a package. With freight forwarding activities, we do not need to seek a warrant for that.

Mr. CALVERT. How long does it take you to get a warrant just to open a package?

Mr. LEE. We have a test in Hawaii that we have been conducting for 2 years and it varies, but it is considerable from 1½ to 2 hours, to go to the courthouse, make the case, do the paperwork, secure the warrant and return.

Mr. STENHOLM. Is the gentleman concluded?

Mr. CALVERT. Just a couple of questions on the sterile fly, Mr. Chairman, and then that will conclude this panel.

After the spraying is complete in Corona-Norco, as we heard earlier, will there be a release of sterile flies and will there be enough flies available to take care of the greater Corona-Norco area?

Mr. LEE. After the spraying is complete in Corona and Norco, which doesn't involve flies, it will have little, if any, impact on the availability of flies. We will continue for a 2-year period to release flies in the greater Los Angeles basin. And so the availability of flies will remain over the next 2 years.

Mr. CALVERT. Thank you, Mr. Chairman.

Mr. STENHOLM. Mr. Dooley.

Mr. DOOLEY. Thank you, Mr. Chairman.

Mr. Kimm, going back to one of your opening comments, one of the decisions that the EPA made was that the failure to move forward with the eradication program could in fact result in putting the environment and public health at greater risk if we did see an infestation.

Is that correct?

Mr. KIMM. Yes. That was also one of the things that was noted in the California risk assessment. There is no elaborate detailed estimates, but it, I think, stands to reason that if a pest of this nature got loose in agricultural areas, it would result in widespread spraying and inherently with widespread spraying you would see significant additional exposure.

Mr. DOOLEY. Mr. Chrisman, we are going to have an additional witness later who is going to be testifying about the effectiveness of the program in the State of California in concert with USDA in term of eradication. But from a historical perspective, we had an outbreak of the medfly in the Santa Clara Valley in 1975 and subsequently in 1981 and 1982, during which time a similar type of spraying protocol and eradication effort was put in place.

Has there been a recurrence of medfly population in that region that required additional eradication efforts since then?

Mr. CHRISMAN. Only in isolated instances where fruit has been determined to have been brought in and there has been some spot

applications done, as I understand it. But for the most part, the program has worked and worked very effectively, Mr. Dooley.

Mr. DOOLEY. And Ms. Jensen, a very similar question. In the State of Florida and maybe Texas, years ago there was an outbreak of the medfly. Were similar programs put in place there involving the spraying of malathion, and did they result in the effective eradication of that pest?

Ms. JENSEN. I am going to ask Mr. Lee to answer that, because I wasn't at USDA at that time.

Mr. LEE. Mr. Dooley, there have been a number of infestations, small infestations found in Florida. The ones that have been depicted in Florida have been effectively eradicated using malathion bait spray.

Mr. DOOLEY. Which is under a fairly similar regime that the State of California is currently using?

Mr. LEE. It was exactly the same, with the exception of a higher level of malathion than is being currently used in Corona.

Mr. DOOLEY. So actually what the State of California is doing now is actually putting an added degree of safety in terms of health risk or exposure to the residents who might be subject to spraying?

Mr. LEE. It is that, but it was based scientifically on the amount of material that actually is necessary to take care of the flies in the environment in southern California.

Mr. DOOLEY. And Ms. Jensen, just as a last question, you made a comment that the infestation of the medfly in California could lead to trade sanctions being put on California by other countries, but we should also expect, and being a Californian, be very concerned that we could also see sanctions being put on by other States in the United States as far as the transport of fruit fly from California; is that not correct?

Ms. JENSEN. Mr. Dooley, the implications are very onerous indeed.

Mr. DOOLEY. Thank you, Mr. Chairman.

Mr. STENHOLM. Mr. Smith.

Mr. SMITH of Oregon. I thank Mr. Dooley for reminding me that everybody is being stopped in Oregon going into California. We may stop everybody from California going into Oregon if this continues. For fruit and other inspections, Mr. Chairman.

Ms. Jensen, our trading partners make any excuse, as you well know, to hold out—what some of us call secondary trade barriers—to use any excuse not to import our products, especially in agriculture. The Taiwanese used the golden nematode to stop all fresh potatoes going into Taiwan. The codling moth is used by the Japanese and other Asian countries, as you well know, as an excuse not to import apples. TCK smut, we all know about, wheat going into China. Now the medfly question, and the issue is I think the impact that I think you talked about was an interior impact. What is the impact on the export market if we don't control the medfly, or have you estimated that?

Ms. JENSEN. We have actually taken a look at this; \$39 million to a possible \$1.4 billion, depending on, of course, the seriousness of the impact.

Mr. SMITH of Oregon. That is just in California.

Mr. LEE. That is correct.

Mr. SMITH of Oregon. If it extends, then who knows, right?

Mr. LEE. That is right.

Mr. SMITH of Oregon. So as I understand this debate, first there are not enough sterile flies to control the problem; the eradication has to do with spraying, and if you don't spray, you don't eradicate. Is that correct?

Mr. LEE. Mr. Smith, that is not entirely correct. They can be eradicated with nominal amounts of spray and the use of sterile flies for an extended period of time. That will achieve eradication. We have done that in California in previous infestations.

Mr. SMITH of Oregon. But you have never used them independently, sterile flies aren't enough.

Mr. LEE. That is correct, sterile flies are not enough by themselves.

Mr. SMITH of Oregon. So we are down to the question of benefit versus risk, aren't we? So the question is, if you spray me with 10 percent malathion and 90 percent corn oil, am I going to get too much corn oil? Well, that is a facetious question. The point is, am I at risk?

Mr. LEE. EPA should answer the question.

Mr. SMITH of Oregon. Please understand, I am not pregnant.

Mr. LEE. Mr. Smith, I really didn't understand whether the corn oil was corn squeezings or not.

Mr. SMITH of Oregon. I see. You feel better, but you die. All right.

Mr. KIMM. Based on all of the information available, we don't think there are any significant risks under these sets of circumstances. On the other hand, we, as you well know from previous hearings, continue to believe that there is some risk associated with all pesticides, all chemical exposures, and so anything that increases your chemical exposure has to bring with it some tiny risk. What we try to do in the regulatory process is very meticulously sort out how large those risks are.

Mr. SMITH of Oregon. So if you spray from 9 to 12 at night, that means people are supposed to be inside. What is the education thing you bring forward, stay indoors when we are spraying or don't stay out too late at night?

Mr. CHRISMAN. That is essentially it, Mr. Smith. It is done through, as I indicated in my testimony, a door-to-door canvassing in the critical areas. We do a first-class mail notice to the affected areas when the spray is going to occur and suggest that they may want to stay indoors and suggest they may want to cover their cars if they so choose and other pertinent measures to protect the population.

Mr. STENHOLM. Always delighted to have the chairman of the full House Agriculture Committee join us.

Mr. de la Garza, would you have some questions?

The CHAIRMAN. Thank you very much, Mr. Chairman. I apologize for being late. I was outside visiting with Jackpot. We had a nice visit. We had our picture taken together. One of our counsels, the chief counsel on our committee, has a beagle named Norma, so we are trying to get Jackpot to meet Norma.

Mr. Chairman, listening to your panel, this is basically about what has happened in California, from hearing the witnesses. But aside from the problem at hand, I would express some concern that we have here the witnesses, USDA, our Assistant Secretary, APHIS, EPA, and each one going their own different ways in trying to address a problem in California at one time or another. I think that maybe in the reorganization aspect we ought to take a look at that. I don't know that you don't work together anyway, but at least looking at the different titles, it leads one to express some degree of concern.

Are all of the sterile flies coming from Mexico?

Mr. LEE. Mr. Chairman, no, they are not. Primarily most of them are coming from Hawaii and the facility that we constructed 7 years ago.

The CHAIRMAN. So you are bringing them from Hawaii, or a combination of Hawaii and Mexico?

Mr. LEE. Yes, sir. We are getting about 150 million from Mexico, Guatemala, and the remaining numbers are coming from Hawaii. It is a USDA facility in Hawaii, and the State of California's facility in Hawaii.

The CHAIRMAN. Now, one of you mentioned that sterile flies alone won't do it. Was that you?

Mr. LEE. Yes, sir; that was me.

The CHAIRMAN. The eradication effort underway in the screwworm program, it did it solely with flies?

Mr. LEE. Different flies, Mr. Chairman, present different technology, and in some instances fruit flies are different from the screwworm fly. And the level of population that is there and the approach that is used for the release of flies enter into the formula as to whether an initial population must be knocked down as we do with the fruit flies, as opposed to some other technology for other flies.

The CHAIRMAN. But all flies mate the same way.

Mr. LEE. I think that is correct.

The CHAIRMAN. That made history in Reader's Digest, studying the sex life of a fly. It has saved countless millions of dollars. But my question was what is the difference in the flies that you can eradicate solely by grids.

Mr. LEE. Given the entomology of the fruit fly and the reproductive potential and the way the life cycle is carried out that part of it is in the fruit and part of it is in the soil or the vegetable and in the soil, that the sterile flies must be available on the emergence and maturation of the female flies of the new generation, and if sterile flies are not there, or they are incapable of mating, and the time that they are released and the release method would have an impact on that. It would allow reproduction of the fertile flies for numbers of generations.

The technology that has been proven by the cooperative researchers have indicated that you must reduce the initial population such that the sterile flies can be competitive with the flies that emerge over time. It is extremely difficult, and has not yet been proven to be an acceptable technology to use sterile flies only with incorporation. The Agricultural Research Service have been researching that question in Hawaii for a number of years, and to date we have

been unsuccessful in determining that we can eradicate them just through the use of sterile flies. So it is the entomology of the flies, the way that they complete their life cycle, their reproductive potential, how strong they are in flying and in hiding, a number of biological factors that enter into that.

The CHAIRMAN. The little pests are getting away with it. Now, not a question, it is a statement very respectfully. The last time that I remember major government costs, millions of dollars out, a major part of the fault was not immediately controlling the situation, rightfully or wrongly, but at least the perception was that it was the government of California and the then Governor of California who caused the delay. Who do we have here from California?

Mr. CHRISMAN. Mr. Chairman, Mike Chrisman, under secretary at food and agriculture. Yes, in 1981 and 1982.

The CHAIRMAN. Refresh our memories on that.

Mr. CHRISMAN. In 1981 and 1982 there was an outbreak of Mediterranean fruit fly in the Santa Clara area of the San Jose area of northern California. And the criticism at that time was that we waited too long, we waited too long to begin the spray program, to begin a baited spray program and we let too many generations move on without the spray, without knocking them down with the aerial spray before we started the application.

The CHAIRMAN. One more question, Mr. Chairman, is that I see here the State of California proposal for a center for research, et cetera, of the fruit fly and the university wants to have one of these centers. But that is not the issue here. I have a technical question to the experts. Do you do basic research on a pest in the area where the pest is? Or do you move it away so that there is no problem then to the area?

Mr. LEE. The current policy of USDA is to permit research with the organism, even a highly injurious quarantine organism, to the extent that there is an infestation in place within the United States. For example, we would allow research with Mediterranean fruit fly in a limited fashion in California within the area in which fruit fly is found with proper safeguards. We allowed research in the State of Florida when there was an infestation of citrus canker disease with the university researchers and ARS under a limited fashion with proper safeguards.

Our policy, though, is not to allow research with highly injurious quarantined organisms in the United States, unless if there are acceptable biosecurity provisions in place. The escape, inadvertent escape, the risk of that, is too great to the agricultural sector to allow such, and we have arranged cooperative programs through the Agricultural Research Service and other researchers for research on the organism concerned and countries in which that pest is endemic. In Guatemala, in Mexico on occasion, in Spain, in Greece, relative to fruit flies. So our policy would be not to allow research unless biosecurity provisions are in place.

The CHAIRMAN. How many host lands are there for the medfly?

Mr. LEE. There are some in excess of 200 economic hosts for fruit flies.

The CHAIRMAN. Do we have any State where there would not be a host.

Mr. LEE. There is hardly a State, Mr. Chairman, where there would not be a host that—the proviso would be whether a fruit fly infestation could become established because of the environmental conditions in some States. For example, in the more Northern States it is highly unlikely that fruit flies can become established in a sustained infestation over a period of time. They could likely establish themselves for a very short period of time in the growing season in the summertime where apples, plums, peaches, pears, figs or whatever might be available.

The CHAIRMAN. Thank you, Mr. Chairman.

Thank you.

Mr. STENHOLM. Thank you. I thank all of the witnesses. Let me just see if I might sum up what I think I have heard you say, what I have read you have said and your response to the questions of my colleagues today. The medfly is a potentially very serious problem for this country if it is allowed to get out of control. Very serious economic problem.

When one is found, we have a procedure that has been tested over a considerable number of years in several States that is constantly improved on, changed, errors found and corrected, new and better ways to deal with the problem are constantly being built upon.

Spraying is necessary in many instances for a thorough control to be utilized. The insecticide of choice is malathion which has a proven record over almost 40 years of being one of the safest insecticides for human beings and has been tested and retested and tested again and is currently being tested again under the 1988 law.

And to continue to be able to say—admitting that it is not possible to say there is absolute safety, but as much as humanly possible, that we can continue to say to all of the people, in this case in Corona or other areas, that to the best of the knowledge of science in the United States that what we are doing is safe to human beings and animals and others that might be affected.

Notification is agreed upon, that it is something that is a primary concern when you have a program, that it is readily agreed to that all of the people concerned should be notified as promptly as possible, within achievable guidelines.

After all of those things are said and done, there are no other alternatives to control the situation that we have talked about here today. Is that a reasonable summation of it? Or if there is something that you would like to correct in my final summation, that you would have said it a little differently?

Ms. JENSEN. Mr. Chairman, I would say it was well said, but you left out the beagles.

Mr. STENHOLM. I deliberately left out the beagles because I heard there was a photograph being made with the beagles, and there was a rumor of character defamation being filed, and I was not sure by whom. But when I heard it was the chairman, I realized that I couldn't complain. I would have hoped that I could have had my picture made with Jackpot, but I could not complain about the situation that may or may not have occurred in the hall with Jackpot.

Ms. JENSEN. Mr. Chairman, we would love to have a picture of you with Jackpot.

Mr. CHRISMAN. Mr. Chairman, I can't add to a thing that you said. We concur.

The CHAIRMAN. Mr. Chairman, I had one further question. Who gives the names to the pests? Mediterranean fruit fly.

Mr. LEE. That, generally, Mr. Chairman, comes from the scientific community.

The CHAIRMAN. Because we have Mediterranean fruit fly, Oriental fruit fly, African honey bee, German yellow jacket, imported fire ant, Formosan fire ant, Asian gypsy moth, Asian tiger moth, Japanese beetle. Don't we have any good old U.S.A. red, white, and blue pests?

Mr. LEE. Very few, Mr. Chairman. We do have indigenous pests, and they are called in foreign countries when they arrive with a name that would be indicating its origin in the United States.

The CHAIRMAN. So we don't have any native ones. I guess that is good.

Thank you, Mr. Chairman.

Mr. STENHOLM. Thank you, Mr. Chairman.

I thank all the witnesses for being here.

I call panel 2.

The first witness will be Mr. Bill Workman, the acting city manager of the city of Corona, Corona, California. Welcome.

**STATEMENT OF WILLIAM P. WORKMAN, ACTING CITY
MANAGER, CITY OF CORONA, CORONA, CA**

Mr. WORKMAN. Good afternoon, Mr. Chairman and members of the subcommittee. I am Bill Workman. I am the assistant city manager for the city of Corona. I bring greetings from Mayor Bill Miller and regrets that he cannot join us this afternoon.

I am, however, pleased to note that Councilwoman Andrea Puga is present in the audience to view the proceedings.

If I had a brief title for my presentation to you it would be "Flies, Lies and the Sins of our Government." It is a sad story of the mistreatment of the citizens of Corona at the hands of those running the cooperative medfly project.

On December 17, 1993, a single female Mediterranean fruit fly was found in Corona. Without determining whether there were any other fruit flies, the California Department of Food and Agriculture and the U.S. Department of Agriculture announced that Corona had a major infestation of medflies. The consequence would be that Corona would be the recipients of comprehensive aerial malathion spraying.

The spraying would not take place over agricultural areas. It would take place over an 18-square-mile area consisting of homes, schools, hospitals, parks, and businesses.

Needless to say, the Corona residents and business community were outraged by the announcement. It would be an extraordinary act by the State and Federal Government who had suspended the use of aerial malathion spray over populated areas since July 1990.

The city and the community viewed this as a capricious and arbitrary decision by the cooperative medfly project. It was a decision

made without consultation or participation by local officials and the public.

In Corona, we were very concerned to find out that malathion is manufactured for its ability to inflict damage to biological tissues. Obviously, the intended targets are insects. However, it affects humans in a similar manner. Malathion is especially harmful to children, the elderly, the ill and those with allergic reactions.

The State of California also admitted that the long-term health impacts of malathion have not yet been adequately studied. Yet the Japanese have studied it and no longer allow spraying over urban populated areas.

The city also found out that the alternative to spraying was to attack the problem with the release of sterile medflies, a method used successfully in Los Angeles, Orange, and San Bernardino Counties instead of spraying. However the cooperative medfly project told us that there were insufficient numbers of sterile fruit flies for Corona. We had to be sprayed.

The Corona populace became more enraged. The cooperative medfly project's poor—and I underscore poor—public information program and inaccurate explanations for the spraying made things worse for our community. Especially when it was announced that, while malathion was safe, endangered species areas in Corona would not receive malathion spray. The kangaroo rats and the least belles vireo birds were safe.

Aerial spraying of malathion began on February 15 and continues today despite the fact that no other wild medflies have been found in Corona since the single find on December 17. We have been informed they have found sterile medflies in Corona but no wild medflies.

Then we find out that millions of sterile medflies were indeed available but were not to be used in Corona. The cooperative medfly project changed its story and said that we were never going to get sterile medflies, just sprays. Talk about the community being upset at that. That was outrageous.

The community read in the newspaper comments from the medfly project that the adjacent communities of Brea and Yorba Linda were receiving sterile medflies instead of spraying.

What is the explanation? The explanation, according to the Governor, Pete Wilson, in a conversation with Mayor Bill Miller, was that the Japanese were pressuring the State and Federal Government to control the medfly. Thus, Corona was going to be sprayed.

Corona's concern here is that we are being treated differently than the rest of California and that, via the cooperative medfly project, the State and Federal Government are posturing for its trading partners without any real concern for the effects of spraying on people.

Well, due to the spraying, we have documented health problems in Corona. We have businesses losing money due to the spraying. We have public and private agencies spending thousands of dollars to clean up malathion after the sprayings.

In Corona, we also realize the impact of this pest, the Mediterranean fruit fly, we know it has to be stopped. We come today and give you some suggestions that we believe are workable, and we would ask for your consideration of the following:

One, immediately stop the spraying of malathion in Corona and use sterile medflies instead.

Two, accelerate the production of more sterile medflies for treatment areas such as Corona.

Three, rewrite the process to better define what constitutes an infestation and how it should be handled. Is one medfly truly an infestation that requires the Governor to declare a state of emergency?

Four, fund additional research on means to control the medfly and prevent its entry into this country.

And, five, establish a public information program that is truthful with its citizens about medflies and the use of malathion.

That concludes my remarks.

[The prepared statement of Mr. Workman appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you. Next, Dr. McKellar.

STATEMENT OF GORDON BRUCE McKELLAR, DIRECTOR, RESEARCH AND INFORMATION, CITIZENS AGAINST URBAN AERIAL SPRAYING

Mr. McKELLAR. I would like to thank the subcommittee members and the chairman for holding this hearing and for inviting me to speak and particularly Congressman Ken Calvert for requesting these hearings and requesting a place for me and to the mayor and city council who recommended to him that I be included.

I appear in two related capacities, first as a scientist and professional researcher, although my usual research has little to do with urban aerial spraying; second, as a resident of Corona who lives in the spray zone, I appear before you as a representative of the citizens of Corona and the citizens of southern California at risk for future aerial sprayings.

My concern with the urban aerial spraying program began last January 13 as I, along with many of my neighbors, listened to CDFa director Henry Voss and his delegation explain the aerial spraying of Corona-Norco.

As I sat there, it was clear to me—and this has been demonstrated time and time again in the nearly 4 months that have elapsed since—that the delegation was less than honest with us in their January 13 presentation; and, second, that the medfly eradication project had serious programmatic, planning, regulatory, procedural and technical deficiencies; and, third, that the program, as conceived, failed to adequately address the potential long-term effects of repeated urban aerial sprayings in real-world urban conditions.

A subsequent review of CDFa, USDA, EPA, CDHS and allied documents confirmed and strengthened these perceptions, and this, in turn, led to the preparation of a written summary of my work and to the development of an action plan on its basis.

I have supplied each member of the subcommittee with a copy of this document and ask that it be entered into the record of these proceedings.

Although I cannot, in the 5 minutes allotted me, do justice to the scope of the problems, in my summary paper I am concerned about a program that:

First, while assuring us of the safety of repeated urban aerial malathion sprayings at the same time requires human exposure studies to, "enable the EPA to better evaluate the potential human health risks from aerial application of malathion over urban residential populations;"

Second, that moves forward while mandated health effects studies are still outstanding;

Third, that still operates with potential gaps existing in the FIFRA 6(a)(2) procedures for identifying adverse health effects studies;

Fourth, that because of inexcusable delays in the pesticide reregistration process, authorizes the distribution, sale, and use of pesticide products under existing regulations with, in the words of the GAO, "incomplete knowledge of their long-term health and environmental effects;"

Fifth, that, given the FIFRA section 24(c) Special Local Need Notification Regulations, has the power to extend an agricultural program into nonagricultural urban and residential areas—that this can be done with little more than a notification procedure and that it can be done without serious concern that the notification will be challenged by the EPA;

Sixth, that, despite an area-wide sterile fly program, it is not certain about the number of sterile flies necessary to ensure medfly eradication;

Seventh, that, under section 18 review, allows CDFA to severely limit the number of aerial sprayings and to be required that these sprayings be implemented only as a last resort, while under the 24(c) process spraying is allowed to be used as a first option to avoid 2-year quarantine restrictions;

Eighth, despite the passage of 4 years since the 1989–1990 urban aerial sprayings, the program has been unable to plan for sufficient numbers of sterile flies;

Ninth, that protocols are so loosely drawn that a single native medfly, however disingenuously, can be used to suggest an infestation and trigger the kind of aerial assault that we are facing in Corona-Norco;

Tenth, that in the face of the serious and ongoing medfly problem in California, fails to establish an adequate research program to address technical issues and develop biological alternatives for malathion spraying;

And, finally, for so long misleadingly represents a political and economic problem of quarantine as a problem of infestation and direct peril to agricultural properties that are already being sprayed.

I could go on here, but time doesn't permit. Let me stress, however, that these are not just my concerns. Most particularly, the program concerns are shared by many in the agricultural community.

As part of my action plan I have been meeting with agricultural industry representatives, Mr. Ted Batkin of the Citrus Research Board and Steve Pearce of the Citrus Growers of California, in an effort to solve the problems before us. This has led to an agreement on 95 percent of the program issues and has led to the formation of an historical alliance between the agricultural community and citizens' groups in working for constructive change and in calling

for State and Federal reviews of the Government's medfly eradication program.

Because of this alliance and because the deficiencies of the medfly eradication program—because these have never been so clearly identified, the potential for effective change and mutual cooperation has never been better. The road before us is clear. If we seize the day and grasp the opportunity, we can move forward in a way never before possible. We ask for your help in this urgent and timely matter.

Thank you for holding these hearings, and thank you for letting me speak.

[The prepared statement of Mr. McKellar appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you. Next, Dr. Polcyn.

STATEMENT OF DAVID M. POLCYN, PROFESSOR, DEPARTMENT OF BIOLOGY, CALIFORNIA STATE UNIVERSITY-RIVERSIDE

Mr. POLCYN. Good afternoon, Mr. Chairman and subcommittee members. Thank you for inviting me to testify.

I am going to summarize my testimony and ask that the full comments be entered in the record.

Mr. STENHOLM. Without objection.

Mr. POLCYN. My name is Dr. David M. Polcyn. I hold a Ph.D. in biology from the University of California at Riverside with an emphasis in insect ecology. I do not currently live in nor have I ever lived in a malathion spray zone.

I have been evaluating the medfly situation in southern California for over 5 years now. I was initially involved at the request of the local chapter of the American Chemical Society who asked me to serve on a panel of experts due to my knowledge of insect ecology and population biology.

I went into the situation assuming I was going to find everything on the up and up. Over the years I have served on several other panels of scientific experts and have conducted extensive literature surveys on the subject. All my work has been voluntary, never paid. I am acting just as a concerned citizen and a concerned scientist. And as both a scientist and a citizen, the more I learned, the more upset I got.

Basically, the medfly eradication program as it is being carried out is scientifically corrupt. Statements are made about population densities without supporting evidence. Eradication claims are made without supporting evidence. In fact, the evidence is to the contrary.

The fly hasn't been eradicated in previous years. Claims of multiple introductions of pests are made without supporting evidence. In fact, the evidence is to the contrary.

You have heard over and over that all the new infestations were caused by fruit brought in from the outside. Both the scientific logic and the data say that is absolutely not the case. And that is not just my idea. Even members of CDFA and their own medfly advisory panel say the same things. The higher-ups are the ones that refuse to listen to the science.

Protocols for documenting effective eradication of medflies are biased in a manner that seriously biases toward finding malathion programs effective at eradication while at the same time biases against sterile fly release programs.

Mr. Smith asked earlier—and I believe it was Mr. Lee that he asked, the USDA representative—if medflies were ever eradicated by using steriles alone, and he replied no. I don't know where he got that answer because it has been used in the past and, in fact, it is currently being used in the L.A. basin right now. If it is not an effective method, I would like to ask USDA why they are using that method in the entire L.A. basin. They haven't used malathion at all in the basin. The International Science Advisory Panel suggested that they do it—use sterile insects—and they are doing it.

Statements supporting the efficacy of localized use of malathion as an eradication tool lacks supporting empirical evidence. Not only is the evidence to the contrary but the mechanism of actions as well as scientific logic would support areawide sterile fly release as being much more effective than aerial applications of malathion in terms of eradication of the medfly.

And, as we have seen in the past, the malathion methods haven't worked over the last 15 years. I want to stress this, it is very important, that we realize that the malathion efforts have not worked and the sterile technique efforts are the ones that have the most promise. And not just sterile technique but other alternatives that we can develop in the future.

Revised and greatly improved eradication protocols approved in 1993 have been implemented for the entire L.A. basin, but the old, failed protocols of yesteryear are being used to treat the adjacent Corona-Norco infestation.

Two of the speakers, the USDA and CDFA representatives on the first panel, touted that the proactive approach in the L.A. basin was their new approach to dealing with the problem. They are using the new science to deal with it, and I agree.

What they failed to tell you was that the International Science Advisory Panel, which suggested a movement toward the proactive approach, also said that the reactive approach doesn't work. It has failed in the past. And that is the exact approach that is being used in Corona right now, a spot treatment with malathion.

The experts that they brought in said that it doesn't work, that they need to move toward a proactive approach of an areawide approach. The list of scientific fallacies and corrupt science goes on.

Basically, there is a serious lack of science underlying the entire program. And the medfly program is a scientific program, although there is obvious economic and political ramifications. First and foremost, it is a scientific problem that we are faced with. Therefore, the solutions to the problem must be based on sound scientific reasonings.

Bureaucratic and political solutions might suffice as short term Band-Aids, but they will not solve the problem. And we have a 15-year history of repeat infestations in southern California that prove that. We have seen infestation after infestation.

It is important to realize that thousands of flies have been found in 13 of the last 15 years in southern California, and they have all

been found in agricultural situations such as yards and parks, never in agricultural groves.

Because of a basic lack of understanding of the fly numbers and fly distribution, the eradication program has not achieved its goal, and the problem is getting worse. Despite the hundreds of millions of dollars that have been spent on eradication and the hundreds of thousands of gallons of malathion sprayed on millions of residents of southern California, the problem persists.

Basically, the medfly infestation has reached its current level because of the ineffective eradication programs rather than despite the programs.

There are some serious problems which need fixes immediately if we are to stop the continued spread of the medfly. Due to a shortness of time I will mention three.

First, we need more sterile flies. Arrangements with Guatemala and/or Mexico were recommended by the International Science Advisory Panel in 1993 but ignored by CDFA and USDA. That is why they were caught with what they claimed were not enough flies to treat Corona.

We have been in this for 15 years. How could we get caught short on flies? It is unconscionable to run a program with insufficient resources.

Second, we need to include the Corona-Norco area in the areawide L.A. basin treatment. Corona is only 10 miles outside of it and immediately adjacent to the L.A. basin treatment area. So it only makes sense to include Corona in the L.A. basin treatment area.

The USDA likes to post Corona as some isolated pocket of flies. It is not. The L.A. treatment boundary ends where the Corona quarantine area begins. They could deal with it in the way that their own experts told them to, treat it as an areawide release zone.

Essentially, Corona is being set up for a reoccurrence of the medfly like the other cities experienced, in L.A., in using the old, failed protocols of being reactive instead of proactive.

The last thing that I will mention is that we need to improve detection capabilities, and this is very critical. The current trapping protocols that we have in place right now to find out where the fly is to begin with or to document when it has been eradicated provide a meager 0.1 percent probability of capturing a fly. This is the CDFA's own data.

What that means is even if flies are present in an area there is a 99.9 percent probability they will not be caught. This is ridiculous. This is not sound science. This is hyperbole. It seems irresponsible if not criminal to continue to spray residents of Corona based on such a poor understanding of the problem and using the failed practices of the past.

In summary, there are two conclusions that can be drawn from my scathing analysis of the current medfly eradication program. You could conceivably conclude that we should spray pesticides more often, spray pesticides on an areawide basis, thousands of square miles of pesticide sprays on a recurring basis for prolonged time periods, probably several years.

Or you could conclude that our current approach is not working and press for the adoption of a biological control program that effectively replaces the spray program. This is a solution that I think is much more viable than the spray program.

With this in mind, I have joined 70 local, regional, and national organizations and experts in the fields of entomology and agriculture in calling for an end to the aerial application of pesticides and an end to the policies that create a financial disincentive for the adoption of biological control measures. I request that the joint statement of these groups and the list of endorsements be included in the hearing record. I have that list here, as an attachment to my prepared statement.

And there is also a series of questions of public interest groups which I would like to have answered by various Government officials and entered into the record if possible, and I would like to know if I could get help on that. I don't have them right now, but I would like to enter them as a separate statement.

Mr. STENHOLM. Submit the questions to the committee, and we will do the best that we can.

[The prepared statement of Mr. Polcyn appears at the conclusion of the hearing.]

Mr. STENHOLM. Mr. Dooley.

Mr. DOOLEY. Dr. Polcyn, in your testimony you talk about the surveillance system and how there are some legitimate questions about how accurate it can be based on 10 traps per square mile if you have an infestation, that you kick it up and that you extrapolate out that there is a 99.9 chance that you are not going to detect.

Mr. POLCYN. That comes from CDFA. That comes from the literature.

Mr. DOOLEY. I am not quarreling with that. But if we do—as happened in Corona, if we do find a fertile female fly, I guess we can assume that there had to be a male fly there somewhere, and if we were only catching 0.01 percent of them, then we should be able to extrapolate back that there were quite a few medflies in Corona, right?

Mr. POLCYN. That is one assumption.

One thing, Corona is within the flight distance of flies from other infested areas, Los Serranos being the nearest area, and the primary State entomologist at—

Mr. DOOLEY. As I understood from your testimony you also said that the fly was generally a weak fly or it wasn't a strong fly.

Mr. POLCYN. It has potential for flying long distances, especially when aided by wind. But it is not unusual for a fly never to leave a single tree for its entire life. There is a wide range.

But I think the problem with the detection capabilities is really on the other end. When we catch one, we know that they are there. I am not arguing that we should say that we have caught the only one.

My argument is on the other side. What happens when we don't catch any? There is a 99.9 percent probability that is going to happen, even if they are there.

And the problem I have is what CDFA does, the department of food and agriculture and USDA. During the spray program, if they don't catch any for three life cycles, they pack up and go home.

With that probability of not catching a fly, three life cycles, the chance is, even if they are there and you haven't eradicated them, you are going to say you eradicated them, you pack up and go home, and then it shows up again. And this thing has been spreading.

Mr. DOOLEY. Would you say that we have achieved what, from all of our sampling surveys would tell us, is eradication in Santa Clara?

Mr. POLCYN. I am not as familiar with the Santa Clara data. I wouldn't venture a guess on that one.

Mr. DOOLEY. If we have not detected or seen a fly that has been captured in the last 12 years—

Mr. POLCYN. If it has been 12 years with fairly intensive trapping, I would feel confident that there were no flies.

Mr. DOOLEY. That is using the same spraying protocols that you are being so critical of now. So, apparently, they do have a historical record of success.

Mr. POLCYN. I am not saying that they don't work. There is a possibility that they work. I am showing you the dichotomy. When malathion is used, the trapping to determine eradication is only carried out for three life cycles. Then they pack up and go home and say we have eradicated. If they catch a fly a week later in the same area, they call it a new infestation.

With sterile releases to document eradication, traps get extended out six life cycles, seven life cycles. There is an inequity between the mechanisms, and the mechanisms are set up to show—it is easier to show that malathion works, and they use that as circular logic to base—

Mr. DOOLEY. Sure, and I understand that, but what we heard from USDA and also from CDFA is that when they are increasing the production of the sterile fly programs, it doesn't imply that they are trying to expand the sterile fly method of control and eradication. I mean, is there not some limitation in terms of how quick that type of system can be geared up?

Mr. POLCYN. I realize there is logistic and technical limitations, but we have been involved in this for 15 years with recurring infestations.

Mr. DOOLEY. Let's just say there was a mistake made. If we have, from a policy perspective, a situation where we do not have adequate numbers of sterile flies, we have the potential for an infestation of the medfly that cannot be controlled by the quantity and the volume of sterile flies that are available.

What you are basically advocating to me is that we ought to risk allowing an infestation, that could result in a quarantine, that could have significant economic impacts and allow that to go on and not utilize malathion spraying. Is that not what you are advocating?

Mr. POLCYN. That is absolutely not what I am advocating. I am very sensitive to the agricultural community. I know that the agricultural community has more to lose from this than anybody. The agricultural community is not helped by the fact that this has recurred over the last 15 years.

I don't think that the malathion program, as it is being used in the spot treatment, is working. The flies are not being eradicated.

They are established in California. And what happens is you spot treat with malathion and you leave populations that are breeding undetected that wind up being the next infestation, and the cycle repeats itself.

We basically have two options then: Either treat areawide with malathion—and I mean large areas with malathion. We are talking probably at least 2,500 or 3,000 square miles now, because it has spread that far and probably much further to try and get any of these satellite populations—either you treat those with very heavy doses of malathion, probably at closer intervals than is being done.

And this whole thing, three life cycles, hasn't worked in the past. It might have in some places, but when you see the history in southern California, there are a lot of situations that it didn't. It has to be an extended treatment.

So I am saying that you have to treat on an areawide basis. If they choose to spray malathion over 3,000 square miles of southern California, that is their choice. But I don't think that doing the spot treatment like in Corona is going to do the eradication.

But CDFA has never intended to use steriles in Corona. They told us that, even though they told the public earlier that they were going to. The issue of whether or not there were enough steriles is a moot decision here. It was a decision that we are going to spray Corona.

Mr. DOOLEY. You are saying that CDFA has enough sterile flies that they can treat the scope of the area that you are talking about. There are enough flies currently available to do this?

Mr. POLCYN. Yes, if they followed the recommendation of the international science advisory panel, which—they followed some. And they were touting those to you earlier, saying that we followed these experts. Well, they only followed some recommendations.

They—ISAP—said, get more flies from Guatemala and Mexico before another infestation pops up. We make arrangements with Guatemala and Mexico so that if an infestation pops up, we have time to get them. They—CDFA, USDA—didn't start that until well after Corona, and they weren't ready in a preemptive sense to have special flies available, although they did find flies.

And I think it is an important point that the panel members made references to, well, the zone couldn't be expanded because there weren't more flies. After the Corona infestation flies popped up in Yorba Linda, more sterile flies were found for Yorba Linda somehow, even though they couldn't be found for Corona. There is a discrepancy. There are enough flies.

The international science advisory panel's strongest recommendation was treat this on an areawide basis. Do not spot treat. What Corona is surrounded by now are areas that are not treated and potentially have medflies existing in them.

Mr. DOOLEY. Thank you, Mr. Chairman.

Mr. STENHOLM. Mr. Calvert.

Mr. CALVERT. Thank you.

Mr. Chairman, with your permission, I would like to enter two documents into the record: One, a set of questions from the Concerned Citizens of Corona-Norco, and the other is the questions raised by the citizens of Corona-Norco at a State of California hearing earlier this year.

I would like to recognize Corona Councilwoman Andrea Puga who has traveled from California to be with us today. Without her support and involvement and local officials like her, we would not be really able to solve this problem.

And I would like to also commend Dr. McKellar on taking a leadership role in the community and forging an historic coming together with all parties on a common proactive and positive agenda.

And let me point out that Bill Workman has played a key role in this event with some insights on how can we do a better job next time if this, unfortunately, does occur.

I would like to ask this panel, please tell me your specific hopes for a better decisionmaking and exclusionary process. Any comments on that?

Mr. WORKMAN. Mr. Chairman, I believe one of the important aspects of exclusionary process would include bilingual education of both legal and illegal immigrants who are coming into this country. We believe that there are a number of individuals who are just not aware about the agricultural restrictions and make frequent trips to Mexico or trips in from the Philippines. And I think that our recommendation would be a bilingual, multifaceted approach in educating individuals in those categories.

Mr. MCKELLAR. I would certainly support that.

My concerns have not been on the exclusionary issues as they have been on the program issues, and so I would defer to Dr. Polcyn.

Mr. POLCYN. One comment on exclusion, just something that I have noticed, being a resident of southern California, is you really don't know when you are in an exclusion zone or not when you are driving down the freeways. And, of course, anybody who has been in southern California realizes that to get anywhere, you go driving down the freeway. We don't have the wonderful public transportation that you do here.

You are driving down the freeway, and you may innocently have fruit in your car or in your lunch bag or whatever, and you drive right past the sign. The only thing that allows you to know that you are leaving an area or entering an area is a little sign that is about 3 feet by 6 feet put off to the side of the freeway, not very high up. And unless you are in the slow lane, which is usually filled with large trucks and motor homes, you are never going to see it.

And they only have it in two languages, English and Spanish. Small signs, only two languages.

The CDFA has routinely blamed certain ethnic groups, which are neither Hispanic nor English speaking, with moving most of the fruit. Yet there are no signs up telling them where the boundaries are.

That is one thing that itself struck me recently about the ability to stop the movement. If they feel that this is illegal fruit being moved around that is causing all the infestation—but the genetic data shows that it is probably not a bunch of different infestations—but if they were concerned, they would put up more information along the freeways.

In terms of basic knowledge, I would like to see a panel of scientific experts in terms of insect problems, scientific experts, to

look at the data on the trapping efficiencies, on trapping protocols, on declaring eradications, on looking at movements, delineating the populations.

Almost everybody who has been involved with this—well, everyone who has been involved in terms of scientists evaluating the program have been handpicked by CDFA, and they have a revolving door, and if they say the wrong things, they are out.

We need an independent group appointed by the National Academy of Sciences, of population biologists, people who are knowledgeable in infestation biology. There are a lot of good people out there who can evaluate the data in an unbiased way and make recommendations that I am sure will make this program much stronger.

Mr. CALVERT. One other question. I would like to get your reaction to any of the testimony you heard from the first panel. What specific questions would you like us to put to those agencies as we follow up on this hearing?

Mr. WORKMAN. I think I, in my summary statement, provided some questions as well as some opportunities for the panel that spoke before us to address some of these concerns with using sterile medflies, accelerating the production of sterile medflies, rewriting the process to better define what constitutes an infestation and fund that additional research.

And as important as anything, from my point of view, in dealing with the public on a daily basis, have an effective public information program that squarely addresses the questions that the public is asking about malathion and the spraying.

The panel before us was touting the 800 number and touting the community meetings. Well, they were truly an ugly situation. There was misinformation, errors, inaccurate information being distributed on the 800 number for weeks. I was personally having to call the supervisors of those people answering the phones to correct the information, to tell them to go find out the answers instead of stonewalling the citizens who were calling.

The community meetings they held were basically—could be characterized by hostility on both parts, both the people conducting the hearings as well as residents there, with very strong opinions on both sides.

I think that the public information area needs to be reworked having the right people in there and doing a very professional job in answering the concerns the public has about spraying and the use of malathion. Thank you.

Mr. MCKELLAR. Frankly, I was concerned mostly with the superficiality of the presentation of the officials in the first panel. It is certainly true that you can't fix a problem if you don't understand it. And I do not think that panel understands the nature of the planning problems, the regulatory problems, procedural problems that face this program.

I think it is a salvageable program. It could be a good program, but at this rate it is not going to be salvaged, and it is not going to be fixed.

As to the more specific issue facing Corona, as I said in my testimony, we do not face there as much an infestation problem as we do a quarantine problem.

One of the issues that Mr. Batkin and Mr. Pearce and I spoke to over some 5 weeks of discussions was the problem that agriculture—that growers have in Corona facing a 2-year quarantine as a direct function of a sterile fly release program. That is the reason for it. Six months of aerial spray with malathion and 2 years with a sterile fly release program.

If I were a grower, I couldn't take a year-and-a-half of lost revenues. But, having said it that way, the problem is the program. It doesn't need to be a sterile fly release program. Maybe there is another technology.

Without research, without a state of emergency declared for research or finding solutions, we are not going to get together. This is not going to go away.

I wish I would have heard something a little more direct and a little deeper. I hope that the next time that panel speaks here they will be addressing the issues in a more productive way.

Mr. CALVERT. Thank you, Mr. Chairman.

Mr. STENHOLM. Your additional material will be placed in the record at the beginning of the hearing after your opening statement. I don't have any additional questions for the three of you. I would make one observation.

Dr. McKellar, you expressed your wishes that the preceding panel would have been a little more in-depth or a little more cognizant of the seriousness of the problem or something of that nature. As one who has listened to numerous hours and days and weeks of testimony trying to come up with a better solution, not just to the medfly but to the utilization of technology in agriculture, there is another frustration level that Dr. Polcyn, I think you in particular could be helpful in resolving.

Because the opposition to pesticides and the individuals that constantly have testified before this subcommittee about the utilization of pesticides also oppose biologicals in exactly the same way that they oppose the spraying of pesticides. And, therefore, the frustration of industry of coming up with constructive alternatives to dealing with problems has about reached the point to where we are no longer going to have an industry looking at solutions.

And we are going to begin a hearing process here in a few weeks on FIFRA one more time. And we are going to hear, I am afraid, some of the same statements that I have heard here today: Criticisms of the program, but unwillingness to really and truly sit down and roll up our sleeves and work on constructive alternatives.

Dr. McKellar.

Mr. MCKELLAR. I think, as I said in my statement, that may have been true in the prior 15 years. It is not true anymore in 1994.

Judging from the discussions I have had with Mr. Batkin and Mr. Pearce and discussions with technical management people at the sterile fly facility and a number of people at the USDA and at the EPA, I must say—I can name the people for you if that is required—there are people willing to look into solutions to roll their sleeves up right now and get this job done.

There is a tier of people, perhaps at the very top of these programs, that want the status quo. But there are some very gifted, very bright and very energetic people below them that want a

change, that can see the change. I think if that is given an opportunity to move forward, the kinds of things you are referring to will not be an issue any more.

Mr. STENHOLM. I assure you that opportunity is going to be given by this chairman of this subcommittee. We will have that opportunity.

Mr. MCKELLAR. Good.

Mr. STENHOLM. I wish that I had seen some evidence and heard it over the last few weeks and months that would have the same confidence that you have, but perhaps I am overly pessimistic.

Mr. MCKELLAR. I think so. I think that in talking to Mr. Batkin and Mr. Pearce, that we do not sit down as friends or people trying to work things out. We sat down with, I suppose, the air of distrust but with a willingness to roll our sleeves up and see what we could find.

I will tell you that we found agreement on 95 percent of the issues outlined in this document—95 percent. That is Ted's figure. I say 98 percent. I think we are in agreement pretty much down the line.

I will say, too, when we have put a face on the agricultural industry through talking to real people, we have come—speaking for myself—we have come to respect these people. I would hope they would say the same of me. We have perhaps different concerns overall, with underlying—we have a feeling that we are united and speak in one voice.

I am not jaded. I am very hopeful. I am not being paid for this. I put my career on hold last January. I have not drawn a paycheck since then. I have not been paid by anybody. My airfare here was funded by citizens of Corona who raised \$600 or whatever it was in one afternoon. There are people all over who think that this can be done, and that is why I have been supported. I would hope that the next 3 or 4 months would show that that is justified.

Mr. STENHOLM. I look forward to reading your presentation, because it perhaps will have some very helpful information to us in the succeeding debates and discussions.

One question, and I am sure there is a very simple answer to it. Dr. Polcyn, you were—maybe it was Dr. McKellar—whichever one of you was talking about the fact that because we don't find a medfly there doesn't necessarily mean that they are not there. If we are missing them because they are not there, then why don't they show up as a problem in our fruit supply, if we are missing them?

Mr. POLCYN. In the first place, of all the thousands of flies that have been found in southern California, and I am pretty sure that this is also true for the northern California program as well, even the ones that are caught are not caught in agricultural settings. CDFA and USDA have—

Mr. STENHOLM. But I was having a hard time following that point. Because if by trapping we find one, and it is in the wrong place; if by not trapping in the right place, we are not finding anything; if they are there and we are not finding them; then why aren't we developing a serious problem, whether it be in California, Texas, or Florida?

Mr. POLCYN. The reason we are not finding them—there are two things going on: One, their populations are low, and they are not

growing as fast as the models show; and, two, we don't have very many traps out. This infestation occurs in urban areas. The agricultural groves are already sprayed. They are being knocked down in the agricultural groves when they wander in.

It is the backyard growers who are not treating their trees and are not harvesting the fruits in a timely fashion.

To get the life cycle completed, the fruit has to drop on the ground and rot. In the orange groves, you don't have a lot falling on the ground rotting. You pick them off the tree, and you are shipping them off, and we eat them and throw the remainder in the trash.

They just don't seem to be found in our agricultural situations. They will be found in urban areas immediately adjacent to agricultural areas but not in the groves themselves.

Mr. STENHOLM. Is your point, then, that we ought not to be concerned about the—

Mr. POLCYN. No, no, that is not my point at all. My point is that this is an urban battle that is going to be fought in the urban areas.

Mr. STENHOLM. And that is what brings the controversy today. I understand that.

Mr. POLCYN. And the question is—I think it is unrealistic to think that we are going to never be infested with medflies again. The question then becomes: Do we initiate a comprehensive sterile release program to deal with the problem or are we faced with repeated spayings like we have year after year after year?

Mr. STENHOLM. We thank you for coming, and we look forward to working with you in the days ahead.

We call the last panel, panel 3.

The next witness is Mr. William Ramsey, the chairman of the Western Growers Association.

STATEMENT OF WILLIAM RAMSEY, CHAIRMAN, WESTERN GROWERS ASSOCIATION

Mr. RAMSEY. Mr. Chairman and distinguished members of the committee, I greatly appreciate this opportunity to present the views of the Western Growers Association concerning California's policies on malathion and medfly eradication.

Western Growers represents 2,400 members who grow, pack, and ship fresh fruits and vegetables and nuts in Arizona and California. Our members ship approximately one-half of America's supply of fresh fruits and vegetables.

With your permission, Mr. Chairman, I will submit my written testimony for the record and orally summarize its main points for the committee.

Mr. STENHOLM. Without objection.

Mr. RAMSEY. The medfly situation has, unfortunately, pitted the agricultural community against some of its urban neighbors. However, this is not an agricultural versus urban fight or issue. Everyone in California has a stake in the medfly situation, and every Californian stands to lose if the threat is not dealt with.

Left untreated, the medfly infestation would devastate not only the Riverside and Corona areas' \$80 million agricultural economy,

but, ultimately, the entire State's \$8 billion fruit and vegetable industry. This economic loss would be a deadly blow to a State economy still struggling to get out of its worst economic slump since the Depression.

From our perspective, the fight seems to focus on the aerial application of malathion bait. In our opinion, this focus is misplaced. And, as I will explain, the issue is simple: If California does not eradicate the medfly by all means available, everyone in California—and potentially in other States—will suffer tremendously.

The Mediterranean fruit fly can infest over 100 varieties of fruits and vegetables. It not only threatens a broad spectrum of California produce, but, ultimately, the agricultural production of other States as well. For example, the climate and crops of Southern States are capable of supporting a continued, established population of the medfly should it be allowed to spread outside of its current borders.

Clearly, medfly infestation is far more than a local issue.

Failure to address the medfly problem would be economically devastating to California and California agriculture. Failure to eradicate the medfly would cause Southeast Asia, which imports well over one-third of the State's fresh produce exports, to ban the importation of most of California's agricultural products. The Southeast Asia embargo could easily be followed by other trading partners, as well as other States that are extremely fearful of medfly infestation.

The University of California professor has estimated that the total short-term loss to the California agricultural economy from a Southeast Asia embargo would range from between \$1 billion and \$1.5 billion. Under this scenario, California would face the elimination of over 14,000 jobs, in the short run alone.

These dire economic impacts would be made even more severe by a worldwide and domestic embargo of California produce, which the report did not take into account. Left untreated, the medfly would spread to other States and countries, and the ultimate economic impact would be too large to calculate.

The factors I have cited influenced the State's decision to combat the medfly by aerial application of malathion bait. True, many residents are concerned about these aerial applications. But we should not let emotions hide the facts. And the fact is, malathion is already in widespread use across California and other States to deal with dangerous insect pests. For example, Florida conducts aerial applications of malathion mist every day for up to 2 to 3 weeks in residential neighborhoods to combat mosquitoes.

Moreover, nearly every report on malathion and every credible scientist or physician has indicated that it is an extremely safe material. In fact, malathion is the most widely used pesticide for home gardening and is used in some areas of the world to control head lice.

Remember, a similar controversy over aerial application of malathion bait occurred in California during 1980–1981. In that instance, the medfly was allowed to spread from Santa Clara Valley to other regions of the State. Although aerial spraying of the affected regions was recommended as early as December of 1980, it

was not implemented until July 1981, when the U.S. Secretary of Agriculture threatened the entire State with a quarantine.

Because of the delay in spraying, the area that had to be treated increased from the originally infested area of 30 to 40 square miles to approximately 1,300 square miles.

Western Growers believes the State made the right decision in choosing to aerielly apply malathion bait. However, we also recognize the importance of addressing the concerns of local residents. We strongly urge State and local governments to educate the public on the importance of eradicating the medfly and to emphasize that this is not a program which only benefits agriculture. Thousands of jobs outside of agricultural production are at stake as well.

As I indicated before, the threat of a medfly infestation is not just a local issue, but rather a State, national, and international problem. We must all cooperate if California is to retain its vibrant agricultural sector and the many jobs dependent upon it.

Thank you.

[The prepared statement of Mr. Ramsey appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you. Next, Mr. Nelsen.

STATEMENT OF JOEL NELSEN, PRESIDENT, CALIFORNIA CITRUS MUTUAL, AND CHAIRMAN, ALLIANCE FOR FOOD AND FIBER

Mr. NELSEN. Thank you, Mr. Chairman. My name is Joel Nelsen, president of California Citrus Mutual, a citrus producer's trade association with a membership of 850 growers farming in excess of 85,000 acres.

I am also chairman of the Alliance for Food and Fiber. That is agriculture's public outreach arm on issues such as nutrition and food safety. The alliance engages in only consumer education and is voluntarily funded by a cross-section of agriculture.

You will notice in my statement that I initiated with an industry profile. Over 200 packing houses facilitate the process of picking, packing, marketing, and hauling fresh, nutritious citrus across the country, around the world. That product originates from over 300,000 acres in the State of California. Over 20,000 people are engaged in the process of picking, packing, hauling, and marketing that product.

There are 20,000 people employed by the citrus industry just in that process alone. Farmers retain additional employees as well. As you can see, our citrus industry is a significant employment business in the State of California.

We think this is significant because the magnitude of a medfly infestation would seriously damage the economy of the State of California. Many members of this committee were actively involved in soliciting allocations for disaster funds when our industry was hit with a disastrous freeze in 1990. That was a \$600 million allocation to our industry just to help us restore our economic viability. A medfly infestation would be a far greater impact than that.

Culturally, a medfly infestation would impact the use of chemicals and the production of citrus in the California area. We know entomologists tell us that each individual fly or egg represents an additional 500 in a vicinity. That alone means that when the eggs

are hatched, the maggots are formed, they feast upon the flesh of a host commodity. It doesn't have to be citrus, it can be peaches, plums, nectarines, over 200 different host commodities that we produce in the State of California.

To help minimize this destruction, chemical sprays will be utilized. Our grower members in the southern California area rely heavily on integrated pest management program. They are the envy of the citrus industry. They use fewer amounts of chemicals than growers in other parts of the country, let alone in the San Joaquin Valley. They would be requiring greater amounts of time and energy, dollars and resources to use chemicals if a medfly infestation were to occur. Beneficial insect programs would no longer be a viable alternative.

In my statement, I have indicated what the economic impact of a medfly infestation would be just to my industry. I am not here to tell you that we would lose all of our fruit and markets, but I am here to tell you that we would lose our export markets, that States such as Texas, Florida, Arizona, Colorado, Oregon and others would also quarantine the State of California, not just my commodity, but all of the agricultural commodities that are in question here.

I have indicated what the economic impact would be to our industry alone if we were to lose 25 percent of our domestic production and 10 to 15 percent of our overseas market, and that, by the way, is 100 percent of our overseas market, it is 10 to 15 percent of our production.

I have extrapolated that into jobs, what that means. The price of a carton of citrus in today's market is \$8; \$4 of that goes to picking, packing and hauling, that is wages paid to employees. Another \$2 of that goes to production, that is the purchase of equipment, production tools and grower's employees. Perhaps \$1, perhaps \$2 are left in the grower's pocket to pay his debt service, and to enhance his lifestyle and to provide for his family and the lifestyle that we all would like to do.

The economic impact is not grower revenue. The \$400 million or \$500 million that we talk about is not dollars into the grower's pocket, it is dollars into the economy, it is dollars to the employees, it is dollars being utilized to purchase and restore businesses in the southern California and the San Joaquin Valley area. That is why it is important to eradicate the medfly.

Maybe we can crystallize this a little bit better. All of our product that is exported is exported via the southern California ports, Long Beach and Port Hueneme. It takes one truck to move 1,000 cartons of product to the Long Beach area. Fifteen gallons of fuel; amounts to tax dollars generated by each gallon. Just the economy alone of one truck not being able to ship or export our product in the the overseas area would be a loss of \$26 million to the transportation industry. That doesn't impact us, that is the truckers, trucks moving product.

That is lost revenue because these truckers would not be paying taxes on the gasoline utilized. These are the type of things that need to be brought into question when we talk about the need for eradicating the medfly.

We acknowledge that a public education program is very important to southern California and all of California, and candidly across the country. People violate the law. That is why we have these problems. That needs to be better explained through a variety of programs. Agriculture has taken upon itself to do just that. I mentioned that I am chairman of the Alliance for Food and Fiber. We have issued bilingual flyers to citizens of the southern California area indicating why it is so important to keep contraband fruit out of the area. We have distributed tarps free of charge to the people expressing concerns about the bait that is being used in southern California. They can be picked up at local newspapers.

We have distributed resource books to local officials, media outlets and others who have expressed an interest explaining the reasons why we eradicate the medfly, the importance of agriculture, and the safety factor regarding malathion. We have also had a cadre of farmers out into the area meeting with various service club people, talking to concerned citizens, with slides, with data, with information to try to answer the questions that are needed to be answered. Those I will leave with the committee here today as well.

The eradication methods, future prevention of infestations has been adequately addressed here today and I won't go into that any longer. But in summary, agriculture and specifically the citrus industry, does not create this problem. We are a crime victim. But we are bound by the misconception that we are the only ones that benefit from a medfly eradication program. I believe in my statement I provided testimony and data that indicates that this issue is far bigger than a grower, it is important to the State of California, it is important to agriculture across this country. There is no option in our view. Eradication is a must.

Right now the only known eradication method is the aerial application of malathion in a production area. Steriles won't work the entomologists tell us because the steriles will harm the fruit, they will puncture the fruit, they will stain the fruit. Malathion applications are the only alternative that we are aware of presently that will eradicate a medfly.

For those reasons there can't be any deviation from the present program. Control cannot enter into the vocabulary of this program. Eradication is the only thing the citrus industry in California agriculture can rely on.

Thank you, Mr. Chairman.

[The prepared statement of Mr. Nelsen appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you. Next, Mr. Batkin.

STATEMENT OF TED BATKIN, MANAGER, CALIFORNIA CITRUS RESEARCH BOARD, ON BEHALF OF THE CALIFORNIA AGRICULTURE ISSUES FORUM

Mr. BATKIN. My name is Ted Batkin, the manager of the California Citrus Research Board. Today, however, I am here as the project manager of the California Agriculture Issues Forum, a coalition of over 10 commodity organizations that have come together to deal with various issues impacting our industry. These groups

include citrus, table grapes, strawberries, kiwis, avocados, and other fruits and vegetables.

The Agriculture Issues Forum is currently providing \$500,000 in funding for the industry's medfly education and outreach program. The medfly education and outreach program is directed at informing various segments of the public, including elected officials and community leaders, on the severity of the medfly crisis and the impact on local, State, and national economies. A more detailed copy of the program has been discussed earlier and is included in my written material.

The program is not sufficient to completely address the scope of the entire issue. I will address that problem as we move forward.

First, however, we have had a lot of discussion today on the issue and the problems surrounding the sterile flies programs. What may or may not have been said over this issue is of little or no consequence now unless your only agenda is to criticize government officials and we all know how easy that is to do. What is important in this whole scenario is the need to look forward and determine how we, as the leaders of industry organizations and governmental agencies charged with the responsibility of action, will protect the public interests and the economic well-being of our country.

What is important to remember, as we are wading through the swamp of alligators, is to keep the two main objectives in complete focus. They are: One, complete eradication of the medfly and, two, pest exclusion programs to ensure that new introductions are not allowed into the country, especially for areas such as southern California that are particularly good host areas for the pest.

The need for eradication is very clear. We cannot allow the medfly to become established in California or any other area, for that matter. Those reasons have already been stated very clearly today.

The need for exclusion is even more obvious. Once the pest is eradicated, it does not make any sense to allow the pests back into the country again. The pest exclusion portion of the formula is by far one of the most important and perhaps the most difficult to solve. There are many avenues that the pest can come into the country. Most common is through the movement of illegal fruit coming from other areas of the world where the pest is established. Additional pests may come in through shipments of fruit through package services and first-class mail.

All of the rhetoric in the world will not solve either the eradication situation or the pest exclusion problem. The solution will require increased commitments from all parties involved to create action steps, not empty promises. The only way this will be solved is through committed, concentrated effort to focus on each segment of the formula and take decisive and specific action.

As has been mentioned before in Corona, that after many weeks of emotionalism, political posturing, and media hype, we came together with the agricultural industry to seek solutions to the problem. This led to a complete refocusing of energies at all levels and has started the development of a bond between citizen groups, agricultural leaders, and city officials that has produced several noteworthy actions.

I am going to move past the resolution that is in the written testimony, because I have another point that I want to get to. But we

must move forward on this momentum that has been developed, and that is the action points that I want to discuss.

Better research into trapping methods, that has been pointed out. Alternatives to aerial application of malathion bait; understanding how the pests survive in our environment; and one very important part that has been brought out, and that is the DNA fingerprinting to determine origins of infestation. We always need more sterile fly production and research facilities; and improved and expanded pest exclusion programs including more beagles and new technology detection methods such as high-speed x-ray scanners.

I wanted to take just a half a second and talk about the sterile flies because there has been a lot of conversation talked about today on sterile flies and I want to, for the record, clear a few things up. One, sterile flies—we don't get them from Mexico, so take Mexico out of the agenda. We do deal with Mexican fruit flies, not Mediterranean fruit flies. The USDA and CDFA facilities in Hawaii are producing 575 million flies a week. That is 575 million viable flies. They can produce more than that, but when they go over that level, they come into quality control problems.

The other question is regarding the flies from Guatemala. It has been stated that we didn't plan for Guatemala, that is an inaccurate statement. However, it may on the surface look that way. Guatemala produces sterile medflies for their eradication program. What we are getting from Guatemala on a weekly basis is what they feel they can allow us to have against their programs. But when they start into their full programs coming in June and July, we will lose those flies, or we have the potential of losing them at any point in time. So we can't say that is a guaranteed source of 100 or 200 million flies per week. It is a gift, and it took about 1½ to 2 years of very intense negotiations to get to that level.

One of the other problems in the sterile flies is with species and viability and getting quality flies out of the sterile fly program. There is an issue also in the development of new sterile fly rearing facilities that we have to address as we move forward on this issue, and that is that the quarantine laws do not allow the introduction of new species into an area where we are currently raising sterile medflies.

We have to wait 3 years once a new, viable or better-strained species is introduced before we can generate new medflies. So that is another issue that has to be thrown into the formula and discussed as we move forward on these solution steps.

To move back to my statement on the action steps and the specific actions that I would like to point out, the formation of the proposed exotic pest research facility at the University of California-Riverside is one positive step to bring the research under a coordinated roof and help prevent duplication of effort and wasting of precious resources.

The second is the improvement and expansion of sterile medfly facilities in a geographical area that will allow the introduction of new species and flies into the program. The third one is legislative changes that will allow the user fees collected by USDA to be fully accessed for pest exclusion programs and fines generated from

within the system as was discussed earlier today to be used within the system and not turned over to the general fund.

These are just a few of the many actions steps that will ensure improvements in the crisis. There are many more steps that need to be explored, but the first step is being taken here today. That is increased awareness of the scope of the problem. This hearing is not the end of the need; this is the beginning. Where we go from here is up to everyone in this room to take decisive and coordinated action.

Thank you very much.

[The prepared statement of Mr. Batkin appears at the conclusion of the hearing.]

Mr. STENHOLM. Thank you. Next, Mr. Perkins.

**STATEMENT OF ROBERT ELI (BOB) PERKINS, EXECUTIVE
MANAGER, RIVERSIDE COUNTY FARM BUREAU, INC.**

Mr. PERKINS. Thank you. Good afternoon, Mr. Chairman, committee members and other guests. I am Bob Perkins, executive manager of Riverside County Farm Bureau in California. It is my privilege to represent the farmers throughout Riverside County. I will summarize some of our concerns which are further elaborated in my written statement. I will also be echoing many of the things you have already heard. I apologize for that, but that is the price of being last in the program.

I must say at the outset that medfly is not just California's problem, it is a national problem. We, from the farm bureau, have proposed that there are five elements of a solution to this problem and they are eradication, pest exclusion, sterile medfly production, research and outreach. Now, you already heard about medfly's impacts, that it is a prolific and destructive pest.

In my own county, 8 of the 15 top commodities are medfly susceptible and out of the county's total farm production value of around \$1 billion, \$395 million is from medfly host commodities. We have heard a little bit about the economic and environmental impacts of medfly today.

I can tell you that most of the citrus growers that I know are already involved in some sort of low pesticide use, integrated pest management program. medfly would completely eliminate those programs. If medfly is found, a farmer has no choice but to go immediately to an intensive pesticide use plan. And we know that if medfly becomes established in California, nothing will stop it at any State border. It will continue to spread across this country.

Now, among those five elements of the solution to the problem, two go hand in hand, and they are eradication and pest exclusion, as you have already heard quite a bit. I will say that we have no alternative to eradication. We cannot live with medfly.

Now, there has been some amount of controversy and confusion in the program as it has been operated this year; that is regrettable, but we in farm bureau continue to support a program that has a sound scientific basis, and at this time, we have to continue to support the current program until something as an effective alternate is provided.

Now, we know that we are not getting the job done on pest exclusion. The number of fly finds in the Los Angeles basin tells us that.

We have to do a better job of border inspections. That means we need more people, better detection tools; we have to be able to catch the casual tourist who inadvertently brings in infested fruit and we also have to be able to stop the commercial smuggler who is the source of many of these problems.

We need to review our penalties and enforcement, and Mr. Calvert raised a very good point earlier. I think that there should be some thought given to escalating penalty. Somebody can make a mistake once, but the second time, it is no longer a mistake, and this is too big a problem to let that go by.

We need to seek the cooperation of foreign governments, passenger carriers, and other groups and agencies that can help us solve this problem from the other end. And finally, we do need to get a handle on first-class mail. I don't know what all that takes, but I have to believe that we need better detection and we need better methods of enforcement.

We know that we are getting infested fruit brought in through first-class mail. The sweeps that are conducted from time to time at border stations and at post offices tell us that. The side benefit of all of these exclusion efforts is that we will catch other pests and we will stop other problems from happening.

We certainly encourage the increase in sterile fly production as soon as possible. We have to have the capacity to meet peak emergency demand, and that means more, bigger and better facilities and it also means our own facilities. We can't rely on foreign suppliers for something as critical as this. We need the funding and the commitment to do this immediately, and the public demands it. The answer that sterile flies aren't available simply is not acceptable.

We also have to support research, and we know that there are many areas where research could produce some better results, including detecting, attracting, and identifying the medfly, pesticides and how to use them, predators and other biological controls and the behavior and life cycle of the fly itself.

We need better coordination of research. We have heard about proposals by the University of California at Riverside to establish an exotic pest research center, and also to be a clearinghouse for medfly research information. Both of these proposals certainly deserve consideration. But whatever is done in the area of research, we need the funding and the commitment to support promising research.

And then finally, we have to reach out to the public. In particular, we have to reach the urban and recently immigrated public to tell them what the medfly is and how they are involved. We have to tell them what it could cost them, how they can help to stop the medfly, and why and how we are conducting the medfly programs that are going on now in Corona.

In conclusion, I would say that we have to balance all of these program costs that we have talked about. We know these things are going to cost, but we have to balance that against the long term, potentially permanent losses that could occur from medfly. We do have to pursue those five elements of the solution, which are to eradicate, exclude, increase sterile fly production, support research and reach out to the public.

And I would want to leave you with one thought, and that is that California is the frontline in a war that we can't afford to lose.

Thank you.

[The prepared statement of Mr. Perkins appears at the conclusion of the hearing.]

Mr. STENHOLM. Two or three quick questions. You heard earlier the assistant city manager of the city of Corona pretty much state that the education program regarding this program was less than desirable. I am being kind. I just heard you testify to the amount of resources that the producers are putting into education of the general public and how important it is. What is happening?

Mr. BATKIN. Well, my first answer to that is it is too little too late. I mean, especially for the Corona situation, the find was in December, the problem cropped up in January, and it has only been February and March when the crisis came to this level that we were able to raise the financial level to the levels we have now. We are too late. We are where we should have been 1 or 2 years ago, and we did not have a program in place to address the needs of Corona.

The bad part of that is that Corona is having to be used as a schoolyard for all of us in the industry to learn where we messed up. And we are now moving forward with these resources to make sure we do not duplicate that mistake again.

Mr. STENHOLM. So the program you were describing is a result of recognizing some of the failures, or was it not in place in sufficient time?

Mr. BATKIN. It was not in place in sufficient time; it was started before the find. We actually started this process, oh, back in the middle of 1993. But we did not have it in place and the funds there ready to go by Corona.

Mr. STENHOLM. Got you. When you talk about needing additional research, DNA fingerprinting to determine the origins of infestation, now my first thought is, we were going to take those little critters and we were going to thumb roll them, and I know that is not the way it is done.

What do we know about where the infestation is coming from into this country?

Mr. BATKIN. Well, the status of the DNA fingerprinting process is still in kind of a developmental stage right now, and in fact one of the previous speakers spoke to the fact that we weren't sure where a lot of these infestations come from.

Mr. STENHOLM. What is the No. 1 or 2 suspect country of origin?

Mr. BATKIN. Right now, it is Guatemala, and to some degree Hawaii, where we know we have them there.

Mr. STENHOLM. Now, I understand we have a sterile fly facility on Hawaii.

Mr. BATKIN. That is correct.

Mr. STENHOLM. How long has it been there.

Mr. BATKIN. I would have to refer to someone from CDFA that might know the answer to that.

Mr. STENHOLM. Anybody in the audience know the answer to that?

Mr. LEE. Five years, sir.

Mr. STENHOLM. Now is that a USDA facility?

Mr. LEE. That is correct. USDA has one they opened 5 years ago. CDFA had one in operation before the USDA facility was established. The CDFA facility has been there, I believe, about 7 years.

Mr. STENHOLM. Are we trying to eradicate the medfly from Hawaii?

Mr. LEE. Sir, we are not trying to eradicate the medfly from Hawaii. That is an objective we have. We have been conducting research with ARS for the past 4 years using some of the sterile production from the facility in Hawaii.

Mr. STENHOLM. So most of the production in Hawaii is, in fact, being used in the United States.

Mr. LEE. All of the production.

Mr. STENHOLM. All of it.

Mr. LEE. All of it is being used in California.

Mr. BATKIN. In the current 1,400 square mile release zone in the basin.

Mr. STENHOLM. Thank you.

Mr. Calvert.

Mr. CALVERT. Thank you, Mr. Chairman.

One thing I want to point out, from listening to all three panels, I think all three panels—and everyone agrees that we need to eradicate this pest. The differences may be on how we eradicate it, whether it is malathion or traditional use of sterile medflies or biological controls, but we need to eradicate it.

And also I think we all agree that we have a tremendous problem in reintroduction of this pest in California and throughout the United States.

I think we also agree we can work together on trying to find ways that we can encourage everyone to work toward eradication and toward the production process in this country where we do not have to reintroduce this problem every several years. And I think that, hopefully, we are going to work toward that.

What commitments—we have listened a little earlier, but is the agricultural community willing to make or maybe they have already made commitments to help in the area of research on this program?

Mr. BATKIN. There are several levels. There is, of course, the Federal level. The USDA SRA program is very established. CDFA put a program together where they contributed last year some \$754,000, and this year they have more.

But the agricultural industry itself is also participating in it as the various different research organizations, such as mine, provide funding for supplemental research where we are trying to kind of fill in the gaps of some of the programs that USDA, that CDFA is funding at the various laboratories around the world.

So we have a commitment at the citrus industry alone to provide whatever supplementary funding is necessary. We are currently providing over \$200,000 in research and are prepared to go at whatever is a reasonable figure for good science.

Other commodities now are beginning to respond also and coming to help fund research projects that will aid in this medfly issue.

Mr. CALVERT. Anyone else?

Mr. RAMSEY. I am a farmer, actually. I am not a hired gun to be here. I ship fresh vegetables, about 20,000 acres of them, annually, and I am representing 2,400 growers because I am a chairman of the board of Western Growers.

Agriculture always puts its money up to help solve its problems. In fact, one of the doctors was talking about the fact they did not find a fly in the orchards, and that was basically true. And the reason is the farmers spray the field, so he is continually spending money to control the eradication of the fly.

The problem is, as was indicated, they find the flies other than in the orchards, and the only way to get to them is to spray where it is necessary. There is no other way to control it.

But going back to the question: Is agriculture interested in continuing research and are they putting up their money? We always have, we always do, and we continue to try our best to keep our fields as clean as we can. So I think the answer to that is yes. I know the answer is yes.

Mr. CALVERT. Thank you.

My final question for the panel would be what would be your specific hopes—and some of you may have already answered this already—for a better decisionmaking process and a better exclusionary process? What can we do in Government to make this work better?

Mr. NELSEN. Let me address that, Congressman, if I may.

I think the decisionmaking process is sound because it is based on science. We know if there is a pregnant medfly found there is an action that needs to be taken based on sound science.

Now, the publicity regarding that, the involvement in exercising the necessary information to the local community, that needs to be improved upon. And we have addressed that—or are trying to now address that. But let us not mistake an emotional reaction and substitute that for sound science on how to eradicate a pest. I don't think that has any part in this issue presently.

I think our emphasis has to be us Government, us agriculture, us the local community leaders to do a better job in enhancing the defenses on our borders. We are a sieve. We have so many problems coming into the State of California and the United States regarding pest introductions that there is no way the existing system can continue to go into an eradication mode as we are doing now.

The cost is so prohibitive. It is a penny now or a pound later, so to speak.

And in 1990–1992, in cooperation with local APHIS officials in the Los Angeles area, they inspected for a 24-hour period, profiled airlines arriving at the Burbank Airport. In one 24-hour period several hundred pounds of contraband was taken from passengers arriving into the L.A. area.

A press conference was held the following day, and the local media did little or nothing as far as publicizing that to the populace.

So it is incumbent upon all of us to educate the populace about our quarantine rules, why they are in existence, the impact that takes place. That is what we have to collectively do. But let us not try to mix emotion with science as far as an eradication protocol. I think that would be a definite problem.

Mr. PERKINS. I would like to add something to that.

I certainly agree with everything that was just said, and the decisionmaking process is sound and has to be based on science. However, I think what our Corona experience demonstrated for us was that we need to be very forthcoming with the public.

The real problem was that the public was not aware and was not well informed about the decisionmaking process once we got to the point where we had to act on certain decision. And, unfortunately, with the number of people who were involved and talking to local officials and the media, there was a great deal of contradictory and confusing information that just made matters worse.

Growers and the local people that have been talking to each other and cooperating on this problem certainly agree we have to be very forthright and very factual with the public on exactly what is happening and why it is happening. But we leave the decisionmaking to a scientific process that we can rely on.

Mr. BATKIN. Just an additional comment on that.

One of the things we did find in our working group—and Dr. McKeller alluded to this before. I think it is important that as we move forward on these things and we discover the concerns of the citizens that we do not set up barriers, either governmental or industrywise barriers, that we reach out and try and bring those concerns in and discuss them openly, as has been said, without political posturing and without rhetoric but with good, solid information and facts. And that we address the concerns of the people so that it does not become an emotional issue and it can be dealt with in a scientific and a factual arena.

Mr. CALVERT. Thank you. Thank you, Mr. Chairman.

Mr. STENHOLM. Mr. Dooley.

Mr. DOOLEY. I just want to thank all of you folks for coming to testify, and I apologize for not being here for all of your oral comments, but I had the chance to read your written comments. And I appreciate the commitment on all of you to work with all the parties to try to help in this education process, which is going to be so crucial in order to maintain an effective eradication program in the future as well as to perhaps modify our existing one.

I have some questions, and I see the CDFA and the USDA are still here.

Mr. Batkin, maybe you know. There were some statements earlier that basically there was not the commitment to purchase the sterile flies from sources in Mexico and Guatemala. Do you have any knowledge of this issue?

Mr. BATKIN. Yes, I do, sir. I am sorry you were out of the room when I gave my statement because I addressed that. But for your answer, quickly—Mr. Chairman, would you mind if I go ahead and answer quickly?

Mr. STENHOLM. Certainly.

Mr. BATKIN. There was a commitment early on to purchase flies from Guatemala, and it was an ongoing negotiation. There are no sterile Mediterranean fruit flies in Mexico. Take Mexico out of the formula. It is only Guatemala where we can get sterile flies, and they are only at the discretion of the Guatemalan Government to give them to us when they are not needed for their own eradication efforts.

Mr. DOOLEY. All right.

Thank you, Mr. Chairman.

Mr. CALVERT. Just want to thank you once again, Mr. Chairman, for having this hearing and appreciate your help.

Mr. STENHOLM. It has been a very educational afternoon for this cotton farmer from west Texas who only enjoys the benefits of that which we have saved from the medfly, whether it be in California, Texas, or Florida.

Thank you for your willingness to be part of the solution. We have a lot of work ahead of us down the line, but I appreciate the spirit of cooperation that we have had from all of the witnesses, even where we had divergent opinions as to what was happening. It seems there is a willingness to work together, and that is what it is going to take. Thank you all for being here.

This subcommittee is adjourned.

[Whereupon, at 4:05 p.m., the subcommittee was adjourned, to reconvene subject to the call of the Chair.]

[Material submitted for inclusion in the record follows:]

Remarks of Ms. Patricia Jensen
Acting Assistant Secretary
Marketing and Inspection Services
U.S. Department of Agriculture
Before the House Committee on Agriculture
Subcommittee on Department Operations and Nutrition
May 5, 1994

Mr. Chairman, I am pleased to be here today to speak to the Committee about the Cooperative Medfly Eradication Program. The Animal and Plant Health Inspection Service (APHIS) welcomes this opportunity to discuss the many complex issues that surround this program and looks forward to a productive exchange of ideas and opinions.

The Cooperative Medfly Eradication Program has become one of the most publicly recognized agricultural programs in our history. It has been the subject of everything from late night jokes, documentaries and news stories, to big budget Hollywood movies. Often times, to our dismay, it is portrayed inaccurately.

We believe that this kind of publicity, while very much a fact of life, is unfortunate because it continually overlooks the program's root in science and its many benefits to consumers, the economy, and U.S. agriculture. However, because perception is reality in so many cases, I'd like to use the time I have

before you to address and reinforce the scientific basis and rationale of this program and the very real economic impact we will all feel if we do not achieve Medfly eradication.

As you already know, APHIS and the California Department of Food and Agriculture (CDFA) have worked closely for many years on a number of projects, including Medfly. Together, we agreed on the need to convene an independent international panel of fruit fly experts to examine the current operational structure of the Medfly project in southern California and evaluate possible options for the future. We did this for a number of reasons, the main one being that, despite our best efforts to keep Medflies out of the country, they continued to appear. This prestigious international panel made recommendations to change the direction of the Medfly eradication program.

APHIS has a long track record of excluding pests through its work at international ports of entry. We work around the clock at airports, seaports and border crossings to inspect and ensure that incoming shipments of fruits, vegetables, meats and other products do not pose a risk of introducing exotic organisms. Last year, about 50 million international travelers entered the

United States and 80,000 vessels entered U.S. ports. We work at border crossings using the latest in x-ray technology to survey visitors and their vehicles for prohibited materials. And, as we will demonstrate later, we use our Beagle teams at airports to sniff out passenger baggage that might harbor contraband fruit, vegetables or snacks.

Although we have labored long and hard to keep Medflies out, even our best efforts have not been enough. Therefore, based on our expert panel recommendations, a new strategy has been adopted.

We were committed to trying a different approach. We were as frustrated with having to address the Medfly as Southern Californians were with having to deal with the day-to-day realities of the program. We charged the panel with coming up with a new and better strategy for dealing with this and what they recommended was switching from a site-specific to an area-wide approach.

The basic difference in an area-wide approach is that instead of viewing the Los Angeles Basin as many individual and independent outbreaks and treatment zones, we now are treating this as a single area-wide problem.

In years past, we have used an integrated pest management (IPM) approach in our eradication efforts because IPM incorporates a variety of control measures that work together to eliminate the pest. These can include chemical, biological, regulatory and cultural controls. We continue to use IPM, but now we are applying it on a much more effective area-wide scale.

When we established the current quarantine and sterile release zones in the Los Angeles Basin, we did so by identifying the areas where we had historically found flies and included that entire area in the sterile release zone.

What we have now is a 1,500 square mile quarantine zone and, within that, a 1,450 square mile sterile insect release zone. Each square mile in the sterile release zone receives a minimum of 250,000 sterile flies each week, while a number of hot spots receive double doses of flies. About 550 million sterile flies per week are being produced for use in this effort. This represents the combined production output of the APHIS and CDFA facilities in Hawaii along with about 200 million flies per week from facilities in Mexico and Guatemala. By dispersing sterile flies continually over the whole Los Angeles Basin for the next 10 to 15 fruit fly life cycles, or 2 years, the wild flies will be less likely to

find fertile mating partners and will eventually die off.

In following the expert panel's recommendations, we made 2 carefully considered decisions. First, we are releasing all available sterile flies in the expanded Los Angeles Basin area. This area is a high-risk target for Medfly introductions and we must stick with this strategy for at least 2 years to ensure that eradication is accomplished. Second, if Medflies are found outside the Los Angeles Basin and in close proximity to commercial growing areas, we will apply a malathion bait spray.

We were in the process of implementing this new strategy in the Los Angeles Basin when a mated female Medfly was trapped in downtown Corona. This find was outside the general Basin area and adjacent to commercial production areas. These factors met the criteria for aerial treatments developed by CDFA and USDA.

Aerial treatments began in Corona and Norco on February 15. Depending on the weather, about every 2 weeks until late May or mid-June, a malathion bait mixture will be applied by air over about 18 square miles of Corona and Norco

to eliminate the breeding population there. The bait spray, calculated per acre, is 1 part malathion to 9 parts corn syrup. This works out to 1.2 ounces of malathion and 10.8 ounces of corn syrup per acre. This use of malathion is about half of what the Environmental Protection Agency allows under existing registrations.

The decisions we make on the type of program to implement are not something we take lightly. Our decisions are driven by long-proven scientific principles and risk analysis, and are guided by sound economic cost-benefit studies. When developing new courses of action, we seek advice from some of the most renowned fruit fly scientists in the world. We have gone to great lengths to conduct comprehensive studies of the program's potential impact to the environment and public health.

In addition to the treatment area, APHIS and CDFA have established a 62-square mile quarantine area around Corona and Norco where fruit and vegetable transport is being closely monitored. Farmers who live inside the quarantine zone will have to treat their produce in an approved manner before they will be allowed to ship it out of the area.

APHIS and CDFA public affairs officers have undertaken a massive educational effort to raise awareness about how to prevent the spread of fruit flies in the region. Project officials have made every effort to see that every household in the treatment area receives a notice before each aerial application.

In addition, these officers have arranged a number of meetings and briefings with the press, public and legislators, both in California and here in Washington. Also, the Medfly project has established a toll-free hotline to provide residents and concerned citizens with up-to-the-minute information about the program and spray schedules. To date, the hotline has received more than 21,000 calls.

Now, you may ask yourselves, just as your constituents have asked you, "Why is this so important?" California's economy, and to a large extent the Nation's economy, is driven by the sale of agricultural products here and abroad. The food and fiber industry in this country constitutes about 16 percent of the Gross Domestic Product. This multi-billion dollar industry ranks the United States as the world leader in terms of food quantity, quality and availability. The fruits, vegetables and grains we sell around the world help provide our neighbors with

healthy, nutritious and necessary food, and give the United States valuable export markets.

In addition, the agricultural industry directly and indirectly employs hundreds of thousands of people as farm workers, machine operators, processors and food service specialists. If the Medfly were to become established in California, the economic impact to that State alone is estimated at \$577 million per year. If it becomes established throughout its potential range in the United States, the estimated economic impact would be \$1.5 billion annually.

Furthermore, if the Medfly were to become established in California, and there were no integrated eradication program, overall pesticide use in California and elsewhere would increase dramatically. Also, the consumer would have to bear the cost of producer losses because many popular fruits and vegetables--such as apples, apricots, grapes, peaches, plums, tomatoes, and the entire citrus group--are all Medfly hosts. These items could not only cost more, they could be of inferior quality because of pest damage. Consumers could pay more and get less for their money, and face increased exposure to pesticide residues.

Equally important are the foreign markets where we sell billions of dollars worth of produce every year. The Japanese government, among others, has expressed its concern over the Medfly find in Corona and checks often with APHIS officials on the program's status. Japan is very concerned about keeping its market open to U.S. produce. If there is evidence that the Medfly is established in California, the probability that the Japanese government would ban California agricultural products is high. The loss of the Japanese market would represent a \$309 million annual loss for the United States as a whole; California provides more than half of the exports to that market. Also, since many Asian countries follow Japan's phytosanitary standards, our trade standing with these countries could also be jeopardized.

The need for Medfly eradication in southern California is clear. As we pursue this important goal, I remind you that the reason we must eradicate the Medfly now in California is because someone has unlawfully brought infested fruit into the mainland United States from somewhere else. So, we will continue to work at international ports of entry to check incoming shipments, passengers and luggage for prohibited fruits, vegetables, and other items. We have a high rate of success in this endeavor, thanks in large part to our Beagle Brigade teams.

In addition to being an effective tool for detecting forbidden food items in passenger baggage, the USDA beagles create curiosity about their role. We will use these beagles to educate the traveling public and help win the fight against Medfly and other pests.

We plan to make the Beagle Brigade the cornerstone of a long-term, comprehensive effort to create and maintain a consciousness among the traveling public about the harm that can be caused by bringing prohibited foreign fruits, vegetables and meats into our country. We believe they can become as familiar a symbol as Smokey Bear and can help remind people of what they can do to safeguard our food supply.

We have arranged for you to meet one of our Plant Protection and Quarantine officers and his canine partner, Jackpot. They are waiting in the next room and we will be pleased to bring them in whenever you are ready.

With that, I conclude my prepared remarks. I thank the Committee for the opportunity to speak about this important agricultural program. I will be happy to answer any questions you may have at this time.

Statement of
Victor J. Kimm
Deputy Assistant Administrator
Office of Prevention, Pesticides, and Toxic Substances
U.S. Environmental Protection Agency
Before the
Subcommittee on Department Operations and Nutrition
Committee on Agriculture
U.S. House of Representatives

May 5, 1994

INTRODUCTION

Good afternoon Mr. Chairman and members of the Committee. I appreciate the opportunity to testify before you on EPA's role in California's Medfly eradication activities. EPA shares the public's concern regarding human exposure to toxic chemicals and the potential for adverse effects. Although no one wishes to see widespread application of pesticides, we think that there is a sound basis for concluding that the potential risks to public health and the environment from the current use of malathion in the Medfly eradication program are negligible. Moreover, much greater public health risks are likely to occur if the Medfly becomes established in agricultural areas, resulting in an increased reliance on the use of pesticides.

The regulation of pesticides involves a shared responsibility between EPA and the states. Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA registers pesticides and sets health, safety, and environmental standards for the entire country. In turn, states have the authority to grant pesticide registrations in certain cases, and to apply for emergency exemptions under conditions set forth in FIFRA and applicable regulations. The flexibility of the law

enables states to respond quickly to emergency situations and address their own special needs within the framework of federal regulations.

EPA oversees state programs to ensure that they comply with the federal standards. California's registration of malathion for Medfly eradication has always generated an enormous amount of public controversy and concern. In view of the public concern, EPA has carefully reviewed the registration and emergency exemption applications, monitors the ongoing eradication program, and will continue to work with the State to ensure that California meets the conditions of the registration and that every reasonable precaution is taken to safeguard public health and the environment.

The U.S. Department of Agriculture (USDA), which is also testifying today, cooperates with the State of California in implementing the Medfly eradication program. Together, the USDA and California operate a state-wide Medfly detection trapping program, as well as an extensive border and inspection program targeted against quarantined pests that pose a threat to California and U.S. agricultural crops. Also, the USDA assists California in managing the release of sterile Medflies in addition to the ground and aerial application of the malathion bait formulation.

In my testimony today, I will describe EPA's role with respect to the Medfly eradication program. In general, this involves the federal registration and reregistration activities

for malathion, as well as the review and approval of the State of California's Special Local Needs registration and emergency exemption authorizing the use of malathion for Medfly eradication. Moreover, in reviewing the eradication program, EPA has supported the use of non-chemical alternatives and integrated pest management approaches to the maximum degree feasible.

REGISTRATION

Like many other chemical pesticides, malathion, if not used properly, can cause adverse health and environmental effects. Therefore, under FIFRA, the Agency requires companies to submit extensive scientific data to demonstrate that use of their pesticide in accordance with label directions will not cause unreasonable risks to people or the environment. Therefore, registration under existing law requires a balancing of risks and benefits.

A battery of test studies are required to evaluate, among other things, a pesticide's toxicity, persistence in the environment, and potential ecological and human health effects. The Agency can require up to 70 different kinds of specific tests to determine whether a pesticide has the potential to cause adverse effects on humans, wildlife, fish, and plants, including endangered species. Potential human risks, which are identified by using the results of laboratory tests, include acute toxic reactions, such as poisoning and skin and eye irritation, as well as possible long-term effects like cancer, birth defects, and reproductive system disorders. Data on environmental fate

enables the Agency to determine whether a pesticide poses a threat to ground or surface water and to other natural resources. Thus, EPA will register a new pesticide only if the data adequately show that the benefits associated with the pesticide outweigh any risks.

Malathion was first federally registered in 1956. It is commonly used to control pests on a number of different food crops and insects in homes, hospitals, and schools. Malathion is also one of the most widely used home gardening pesticides. It is readily available over the counter in hardware stores, lawn and garden shops, drug stores and grocery stores. In addition, malathion is widely used in public health mosquito control programs which often involve aerial applications over large populated areas. With the extensive use of malathion, EPA has collected and reviewed large amounts of scientific data on the pesticide, making it possible to estimate the potential human health and environmental risks from aerial application.

REREGISTRATION

EPA continually seeks to upgrade the test databases on pesticides and to provide guidance on their proper use. To develop a complete set of data according to current scientific and regulatory standards, malathion is undergoing reregistration. All pesticides registered prior to 1984 are re-examined to ensure that their test studies meet modern criteria. Through this process, we have collected a complete database on the acute toxicity, ecological effects, environmental fate and product

chemistry of malathion. Moreover, the Agency has required new chronic toxicity studies and data on ocular effects which are scheduled for completion by December 1995. Although there are a few remaining data gaps, we are able to make science-based risk assessments concerning the potential for adverse health effects from dietary and non-dietary exposure to malathion.

At the initial stage of the reregistration program for malathion, EPA considered requiring additional human bystander exposure data in order to improve existing risk assessments. This may have involved ambient exposure monitoring during the aerial application of malathion for Medfly eradication purposes. At this time, however, we do not anticipate the need to require these human bystander exposure studies. In making this judgment, we evaluated the adequacy of existing modelling studies and risk assessments, and have concluded that alternative methods such as mass deposition monitoring and laboratory studies could provide adequate data to improve our estimates of exposure from aerial applications of malathion.

Data that are being collected by the State of California will be used to refine the existing risk assessment assumptions. The State is collecting environmental samples and measurements which will provide additional information for calculating human exposure to malathion. Therefore, the Agency does not plan to issue requirements for bystander exposure studies, but will require routine exposure studies for mixers, loaders, and applicators for certain specific agricultural use situations.

FIFRA "SPECIAL LOCAL NEEDS" REGISTRATION

In addition to the federal registration for the uses of malathion which I described, FIFRA grants states the authority to issue Special Local Needs registrations when any necessary tolerances (maximum residue limits in food) have been established and when the state determines that there is a "special local need" which requires the use of a pesticide. FIFRA gives EPA 90 days to review these registrations to ensure they meet statutory requirements. Accordingly, EPA monitors compliance with the registration in coordination with the states.

In 1983, the State of California issued a Special Local Needs registration to approve the use of malathion in Medfly eradication efforts. This registration authorizes the State to apply malathion products in a protein bait to a variety of commercial, ornamental plantings and nursery stock for which there are necessary tolerances (e.g., apples, peppers, plums, strawberries, etc.). The registration also indicates the specific malathion products to be used in the eradication program. In our review, EPA did not find any reason to deny the Special Local Needs registration since malathion has not been found to pose unreasonable risks when used according to the prescribed uses and application rates authorized by the registration.

Application rates under this Special Local Needs registration are significantly lower than the typical rates for agricultural uses of malathion. Application rates for

agricultural uses such as use to control the boll weevil, grasshoppers, and mosquitoes range from approximately 4 to 15 times higher than is currently being applied for Medfly eradication in California. The lower application rates in this case, which can be attributed to the use of a protein bait, minimize the population's exposure to malathion.

SECTION 18 EMERGENCY QUARANTINE EXEMPTION

In the early 1980's, California first applied for a FIFRA section 18 emergency exemption to legally apply malathion for Medfly eradication on crops for which there are no established tolerances. Most recently, in 1992, EPA granted a section 18 emergency exemption to the State of California approving the use of malathion for Medfly eradication. Under section 18 of FIFRA, EPA may exempt a state or federal agency from the provisions of FIFRA when certain emergency conditions exist. One type of emergency exemption is the quarantine exemption, which may be authorized to prevent the introduction or spread of any pest which is new or not widely prevalent throughout the U.S. After reviewing the existing data on malathion, including a human health risk assessment conducted by the California Department of Health Services, EPA issued a quarantine exemption. The exemption, valid for three years, allows the aerial application of malathion for use in Medfly control when other methods are inappropriate or unavailable. Based on our review of this information, the Agency concluded that the benefits of using malathion in Medfly eradication activities outweigh the risks.

California's Health Risk Assessment provides a comprehensive review of the potential risks associated with the aerial application of malathion. The extensive monitoring and modelling carried out by the State indicates that the margins of exposure for the general public is within accepted safety guidelines. However, under a worst case scenario, where the maximum rates of malathion are applied and when certain population groups do not take appropriate precautions to minimize exposure, there is some potential risk. Therefore, EPA is working with the State to ensure that all efforts are made to limit the use of malathion, and that the public is aware of the appropriate precautions to minimize their exposure to the aerial applications of malathion. Recently, EPA has been informed that the current application rate of 1.2 fluid ounces of malathion is about half that of applications made during the 1990 Medfly eradication project in Los Angeles. As a consequence, it is less likely that application will result in exposures that cause adverse health effects.

It is clear that if the Medfly were to become established in California, there would be substantial economic losses. Not only would crop yields and quality significantly diminish, there would also be a need to increase pesticide use. In 1990, when the University of California prepared an economic assessment of the potential impact of the Medfly, if established in the State, the total annual costs were estimated to range from nearly \$600 million to more than \$1 billion. In addition, it was estimated

that \$100 million would be required to construct additional cold storage and fumigation facilities, and that approximately \$10.7 million would be required to upgrade packing and shipping facilities to conform to quarantine regulations. Thus, the potential economic losses to agriculture production and trade could be in the billions of dollars annually. Moreover, without eradication, it is likely that the Medfly would spread beyond California to other states.

Also, in granting the section 18 quarantine exemption, EPA considered the effectiveness of available alternatives to malathion. Although it is unlikely that non-chemical alternatives, used alone, can adequately control the Medfly, California incorporates available alternatives in its control practices. In addition, the State consults with independent panels comprised of international and U.S. experts when developing protocols for controlling the Medfly. We carefully evaluated California's protocol for siting, trapping, and eradicating the Medfly, and recognized that in most cases, eradication is pursued with limited use of malathion combined with the release of sterile Medflies. We understand that repeated aerial applications of malathion is regarded as a measure of last resort.

To begin with, California has attempted to intercept the Medfly at the border before entering the state. Border inspection stations have been maintained with the sole intent of preventing the introduction of quarantined pests. In addition,

USDA and the U.S. Postal Service have developed a mutually acceptable protocol for inspection of first class mail parcels in Hawaii, which may contain prohibited plant materials. Despite these efforts, California has had to resort to the use of malathion to eradicate the Medfly. In these cases, California's preferred method is to use limited ground applications of malathion bait followed by the release of sterile flies. We understand, however, that California's decision on aerial application of malathion depends on the presence of a mated female Medfly, the distribution of wild Medflies, the availability of sterile Medflies, and the proximity of vulnerable crops, among other factors.

We have strongly encouraged the use of sterile insect treatment and hope that improvements can be made in the sterile Medfly rearing facilities so that an adequate supply is always available if there is a Medfly outbreak. However, we realize that in some cases, multiple aerial spraying of malathion may be necessary for complete eradication.

It is also clear that the public needs to be appropriately notified and given information about the eradication program. As part of a comprehensive program, the public should be advised of the proper precautions for limiting exposure when aerial spraying is conducted. In addition, special effort should be extended to ensure that children minimize their exposure to malathion. Physicians and other medical personnel, too, must be aware of the typical symptoms associated with exposure to organophosphate

pesticides.

EPA is currently evaluating California's notification procedures and is working with the state to ensure that these populations, which have the greatest potential to be affected by exposure to malathion, can take appropriate precautions. We are providing guidance to the State and recommending improvements to the notification process so that all reasonable steps are taken to reduce the public's exposure to malathion and that medical professionals are prepared to treat any illnesses that may potentially result from the eradication program. In addition, we are responding to a petition from the City of Corona requesting EPA's review of the State's public notifications.

CONCLUSION

In view of the controversy surrounding the eradication program, EPA is taking into account all of the concerns expressed by citizens, state officials, and elected representatives. We recognize the extreme level of concern that accompanies any program of pesticide application that involves involuntary exposure. Thus, EPA, among others, is monitoring the eradication program and reassessing the data and information regarding the use of malathion in the program. If there is reason to believe, at any time, that the application of malathion is causing or is likely to cause unreasonable human health or environmental effects, we will take appropriate regulatory action. However, after evaluating the available information, we believe that the potential risks to public health and the environment from the use

-12-

of malathion in the Medfly eradication program are negligible.

EPA strongly supports safer methods of pest control and welcomes alternative methods for eradicating the Medfly. We encourage the development of non-chemical methods of pest control and procedures that will reduce human exposure to pesticides. The Administration has recently forwarded to Congress a pesticide bill reflecting this policy that would, among other things, require federal agencies and encourage the public to use integrated pest management techniques. In turn, it supports the implementation of pesticide use reduction goals and research to develop alternative pest control methods. Moreover, EPA will continue to work with the states and other federal agencies to ensure that pesticides are used safely and meet protective health and environmental standards.

TESTIMONY

OF

MIKE CHRISMAN, UNDERSECRETARY

CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

Before the

House Committee on Agriculture

Subcommittee on Departmental Operations and Nutrition Agriculture

May 5, 1994

Mr. Chairman, thank you for the opportunity to speak to the committee regarding the joint USDA/CDFA Medfly eradication program in Southern California.

The eradication of Medfly is a complex issue which, when requiring the aerial application malathion and bait to achieve success, generates a great deal of publicity and public concern. In the midst of the controversy surrounding Medfly, the scientific foundations upon which the nature of the program is based gets overlooked.

I would like to reinforce the perspective that the USDA has already provided that this program is based on sound scientific principles, and that its success is vital to the economy and environment of California as well as the United States.

California supplements USDA's exclusion efforts with border stations, parcel inspections, and public education in an effort to reduce the amount of fruit fly infested produce entering our state. We maintain what many consider the best pest detection trapping system in the world in an effort to find pest

infestations such as Medfly at the earliest possible stage. Despite our intervention, there have been a number of Medfly infestations in recent years.

Since 1991, we have been reacting to Medfly infestations in the Los Angeles Basin utilizing ground-based treatment with malathion and bait in a 200-meter radius around an infestation, followed by the release of sterile Medflies at the rate of one million per square mile in a 16- to 20-square-mile area around each site. In October 1993, it became apparent that this approach was not working and that we needed a new strategy. In cooperation with the USDA, an international team of experts was assembled to provide a second opinion.

Their recommendation called for a proactive approach, the basinwide release of sterile Medflies for two years at the rate of 250,000 per square mile, with an additional 250,000 per square mile around existing fly find sites known as core areas. CDFA concurred with USDA in making the decision to accept their recommendation. To accomplish the job would require the combined capacity of the CDFA and the USDA sterile Medfly rearing laboratories in Hawaii. These labs are providing approximately 430 million sterile flies per week to the basinwide effort.

When the discovery of the mated female fly in Corona was made, we had already begun the implementation of the basinwide

release plan. Since a mated female Medfly meeting the criteria as defining the presence of an infestation adjacent to a productive agriculture area, CDFA Secretary Henry Voss, in consultation with Governor Wilson and the USDA, decided to utilize aerial bait spray as the means to eradicate Medfly in Corona. There is no other option in order to protect the agricultural industry and economy of California.

In implementing this solution in Corona, we have directed staff to make an extensive effort to reach out to the public to describe the importance of the project and provide them with information regarding the use of malathion. The California Department of Health Services has stated that there is no significant health risks associated with the use of malathion as applied by the program. We have provided a notice to the residents of the area prior to each application either by door-to-door delivery or by first class mail. We have made intensive efforts to notice the the homeless population in the area by visiting shelters, food closets, and dining halls, and by posting notices in locations where homeless persons were known to congregate. We worked with local agencies and homeless advocates to make sure the notice reached the entire homeless population.

In support of the public information campaign, we operate a phone bank to provide up-to-the-minute information on project operations, and to answer health questions regarding the

applications. This phone bank is supported by medical experts from the Department of Food and Agriculture and the Department of Health Services. Callers with health questions or concerns too complex for the phone bank staff are referred to these experts. CDFA also provides funding to the Department of Health Services for follow-up investigations on residents claiming to have medical symptoms as the result of an application.

Another aspect of the Corona program is the use of environmental monitoring on our application method. We test the bait spray before each application for the percent malathion. Dye cards are used to measure the deposition of material, as well as the monitoring of air, water, and soil, conducted under contract by the California Department of Pesticide Regulation. We do this to identify any problem so that they can be corrected, as well as to provide an outside review of our operations.

The eradication of Medfly from California can be accomplished. The overwhelming majority of scientists which have studied California's situation feel that a permanently established population does not exist, and that the current infestation can and should be eradicated.

The University of California has published a study on the economic impact of Medfly on California. Their estimate of the potential annual cost of a permanent Medfly infestation ranges

from \$500 million a year to over \$1 billion. When so much is at stake to the economy of California, it makes good sense to aggressively pursue eradication of this pest, especially when California is just beginning to pull out of the recession.

The Medfly is not just an agricultural problem. As described by the USDA, there is also an impact on the urban population due to the increased use of pesticides and the loss of backyard fruits and vegetables. Beyond that there is an environmental impact of the increase in pesticide use. Homeowner pesticide usage is not strictly regulated as is the case in commercial agriculture. Excess usage will have a detrimental impact on water quality and nontarget organisms.

The California Department of Food and Agriculture and the USDA have combined to implement a safe and effective program to eradicate Medfly in California with every chance of achieving success.

With that I conclude my remarks. I thank the Committee for the opportunity to speak about this important program. I will be glad to answer any questions you may have at this time.

TESTIMONY
OF
CHARLES M. SHULOCK, ASSISTANT SECRETARY
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY
BEFORE THE
HOUSE COMMITTEE ON AGRICULTURE
SUBCOMMITTEE ON DEPARTMENTAL OPERATIONS AND NUTRITION

MAY 5, 1994

Good afternoon, Mr. Chairman and members. I am Charles Shulock, Assistant Secretary at the California Environmental Protection Agency (Cal/EPA). Thank you for the opportunity to address the committee regarding Cal/EPA's role in the Medfly eradication program in Southern California.

The mission of the California Environmental Protection Agency is to improve environmental quality in order to protect public health, the welfare of our citizens, and California's natural resources. The Agency emphasizes environmental regulation that is clear, understandable, enforceable, and uniform, stressing the need to safeguard California's high environmental standards, while simplifying the process designed to achieve those standards.

Cal/EPA consists of the Office of the Secretary and six Boards, Departments and Offices which together cover the range of environmental issues--air, water, hazardous waste, solid waste, pesticides, and environmental health science.

Cal/EPA's role in support of the Medfly eradication program is twofold. We ensure that the application of the malathion conforms to all applicable federal and state requirements, and we provide scientific and technical evaluation of its environmental and health effects.

Our Department of Pesticide Regulation (DPR) handles environmental monitoring, use enforcement, and special registration aspects of the program. Environmental monitoring is conducted by their Environmental Hazards Assessment Program. This monitoring is not required by law or regulation, but is done to confirm the effectiveness of applications and ensure that public health is protected. Data collected during the current program will also be used to reevaluate the 1991 malathion risk assessment conducted by the state.

The monitoring program collects air samples and samples taken from surfaces upon which the bait mixture has been deposited. These samples, generally taken at hospitals, schools, and private residences, are collected and analyzed for malathion and malaaxon. In addition, samples have been collected to provide information about the amount of malathion and malaaxon on playground sand, stainless steel, turf, native soil, and edible

vegetation, and in potential drinking water sources, swimming pools, residential ponds, rain runoff, and fisheries in areas under aerial treatment. If an endangered species habitat is identified near the area to be treated, additional sampling is conducted in that habitat. When results are complete, a report is published.

DPR's Pesticide Enforcement Branch ensures that CDFA personnel and agricultural pest control businesses using malathion to eradicate fruit flies are complying with pesticide laws and regulations. The county agricultural commissioner is the local agency responsible for enforcing laws and regulations. DPR works directly with the commissioner's office, coordinating activities and providing oversight.

DPR and commissioner staff inspect the pest control operator's business records; pesticide use records, worker safety program, and storage facilities to determine compliance with pesticide laws and regulations. If malathion is stored at CDFA's facility, or if its employees will be mixing, loading, or applying malathion, a similar inspection is conducted at that facility.

Enforcement branch staff collect a sample of the malathion product from each lot to be used on the project. The product is analyzed to determine whether it is formulated properly. In addition, it is analyzed for metabolites and impurities, such as malaoson and isomalathion. DPR staff also collect samples of each tank of diluted malathion bait mixture to determine whether the pesticide product was mixed according to label instructions.

During the project, the commissioner's office and Pesticide Enforcement Branch personnel are on site to monitor pesticide applications and ensure compliance with state and federal laws and regulations. The commissioner, under the direction of the Pesticide Enforcement Branch, investigates any complaint of property damage, illness, or injury as a result of a pesticide application, or any suspected pesticide violation that occurs during the project. If an illness is reported, the investigation is coordinated with local and state health officials.

With respect to the registration process, Section 18 and Section 24(c) of the Federal Insecticide, Fungicide, and Rodenticide Act authorize states to allow additional uses of federally registered pesticides and of new products that are substantially similar to federally registered products. DPR's Registration Branch has evaluated and registered a Section 24(c) Special Local Need Registration for use of malathion by air and ground application for all crops that have tolerances but are not on available registered Section 3 labels. The branch also processed a request for a Section 18 emergency exemption for those crops that do not have a tolerance established, but would have malathion applied to them under the requirements of a Medfly eradication treatment.

Turning next to health evaluation, the lead Cal/EPA role is performed by our Office of Environmental Health Hazard Assessment (OEHHA). This Office provides scientific and technical expertise and public health oversight in assessing the human health risks posed by hazardous substances in the environment. The Office's current malathion-related activities build upon previous evaluations, all of which have concluded that the eradication projects present no significant public health risks.

The most recent major evaluation was undertaken by the Department of Health Services in late 1989 and published in February 1991. This "state-of-the-art" risk assessment involved a review, by over 30 staff scientists, of over nearly 2300 citations from the published literature and unpublished database on malathion toxicology. The Department of Health Services also convened a Malathion Public Health Effects Advisory Committee, modeled after a successful community advisory committee convened during the 1981 Santa Clara medfly eradication program.

The results of the 1991 risk assessment were summarized in a consensus statement drafted by the Department of Health Services, the Department of Food and Agriculture, and Cal/EPA. Before referring to that statement, it is worthy of note that the concentration of malathion used in the current eradication program is one-half of the amount that was used when the 1991 risk assessment was prepared, further reducing the already small potential for adverse effects. With that in mind, I would like to quote from the relevant sections of the consensus statement:

"The 1991 consensus of the Department of Health Services and the Malathion Public Health Effects Advisory Committee was that the risks to public health posed by malathion-bait, as used for eradication of the Mediterranean and Mexican fruit flies, are outweighed by the health risks of not eradicating. Individuals claimed a number of potential health effects which were investigated. Skin testing of individuals who reported rashes following aerial spraying in 1989-90 showed that some individuals may have had mild skin irritation of limited duration. Importantly, it was concluded that it is very unlikely that malathion causes major chronic health effects such as cancer and birth defects, concerns about eye disease were found to be unwarranted, and pesticide poisoning and other serious effects did not occur.

The Advisory Committee noted that the anger and anxiety that aerial spraying elicits in some people is an important public health consideration in itself; and, that despite a lack of conclusive evidence, some people continue to believe their health has been affected. To address this, it was recommended that responsible agencies increase efforts to communicate risks and benefits to the public. If aerial spraying is ever again necessary, people should use common sense measures to minimize exposure. People may want to

follow simple precautions such as remaining indoors during applications, rinsing off outdoor play areas, washing skin and clothing promptly if contact occurs, and washing home-grown produce before eating, just as you should do with all produce. Such common sense measures should provide adequate protection to all individuals, including those most sensitive and most exposed, in an area of aerial malathion-bait application."

The reorganization that created Cal/EPA took effect in July 1991, following the release of the February 1991 health risk assessment. The Department of Health Services staff that had coordinated the previous activities were transferred via the reorganization to the newly created Office of Environmental Health Hazard Assessment in Cal/EPA. Pursuant to an interagency agreement, the Office now provides technical support to the Department of Health Services when eradication programs are implemented by the Department of Food and Agriculture. In this capacity, OEHHA staff are preparing a supplemental risk assessment for malathion coproducts, and accompanied the Department of Health Services to public meetings in southern California during the initial stages of the current 1994 Medfly eradication program.

The Office also is required to provide annual reviews of the scientific literature on malathion in an effort to re-evaluate the results of the 1991 risk assessment document. To date, no new experimental evidence has emerged that would change the results and conclusions of the 1991 risk assessment.

Thank you once again for this opportunity to describe our project. I am available to answer any questions that you may have.

Testimony to the House Committee on Agriculture
Subcommittee on Department Operations and Nutrition

Presented By:

William P. Workman
Assistant City Manager
City of Corona
815 West Sixth Street
Corona, CA 91720

May 5, 1994

Good afternoon, Mr. Chairman and members of the Committee. My name is Bill Workman. I am the Assistant City Manager for the City of Corona, California. I bring greetings from Mayor Bill Miller and his regrets that he cannot be here today. However, I am pleased to note that Corona Councilwoman Andrea Puga is present in the audience this afternoon. If I had a title for my brief presentation to you it would be "Flies, Lies and the Sins of our Government." It's a sad story of the mistreatment of the citizens of Corona at the hands of those running the Cooperative Medfly Project.

On December 17, 1993 a single female Mediterranean fruit fly was found in Corona. Without determining whether there were any other fruit flies, the California Department of Food and Agriculture and United States Department of Agriculture announced that Corona had a major infestation of Medflies. The consequence would be that Corona would be the recipients of comprehensive aerial malathion spraying. The spraying would not take place

over agricultural areas. It would take place over an 18-square mile area consisting of homes, schools, hospitals, parks and businesses.

Needless to say, Corona residents and business people were outraged by the announcement. It would be an extraordinary act by the state and federal government who had suspended the use of aerial malathion spray over populated areas since July 1990.

The city and the community viewed this as a capricious and arbitrary decision by the Cooperative Medfly Project. It was a decision made without consultation or participation by local officials and the public.

In Corona we were very concerned to find out that malathion is manufactured for its ability to inflict damage to biological tissues. Obviously, its intended targets are insects. However, it affects humans in a similar manner. Malathion is especially harmful to children, the elderly, the ill and those with allergic reactions.

The State of California also admits that the long-term health impacts of malathion have not been adequately studied. Yet the Japanese have studied it and no longer allow spraying over urban populated areas.

The City also found out that the alternative to spraying was to attack the problem with the release of sterile Medflies. A method used successfully in Los Angeles, Orange, and San Bernardino Counties instead of spraying. However, the Cooperative Medfly Project told us that there were insufficient numbers of sterile fruit flies for Corona. We had to be sprayed.

The Corona populace became more enraged. The Cooperative Medfly Projects' poor public information program and inaccurate explanations for the spraying made things worse. Especially when it was announced that, while malathion was safe, endangered species areas in Corona would not receive malathion spray. The Kangaroo Rats and least belles vireo were safe!

Aerial spraying of malathion began on February 15 and continues today despite the fact no other wild Medflies have been found in Corona since the single find on December 17.

Then we find out that millions of sterile Medflies were indeed available but were not to be used in Corona. The Cooperative Medfly Project changed its story and said that we were never going to get sterile Medflies, just spraying! Now the community was really upset.

What's the explanation? The explanation according to Governor Pete Wilson was that the Japanese were pressuring the state and federal government to control the Medfly, thus Corona had to be sprayed.

Corona's concern here is that we are being treated differently than the rest of California. And, that via the Cooperative Medfly Project, the state and federal government are posturing for its trading partners without any real concern for the effects of spraying on people.

Well, due to the spraying, we have documented health problems in Corona. We have businesses losing money due to the spraying. We have public and private agencies spending thousands of dollars to clean up malathion

after the sprayings.

In Corona we agree that the Mediterranean Fruit Fly is a pest that must be stopped. Here is our solution:

1. Immediately stop the spraying of malathion in Corona and use sterile Medflies instead.
2. Accelerate the production of more sterile Medflies for treatment areas.
3. Rewrite the process to better define what constitutes an infestation and how it should be handled.
4. Find additional research on means to control the Medfly and prevent its entry into the country.
5. Establish a public information program that is truthful with its citizens about Medflies and the use of Malathion.

End

**Testimony of Gordon Bruce McKellar Ph.D.
Before The
Subcommittee on Department Operation and Nutrition
Committee on Agriculture
U.S. House of Representatives
Washington D.C.**

May 5, 1994

CITIZENS AGAINST URBAN AERIAL SPRAYING

1114 1/2 East Grand Boulevard Corona, California 91719 (909) 279-2276



Acknowledgements

Before I begin, I would like to thank:

- (1) The subcommittee members and Chairman Stenholm for holding this hearing and for inviting me to speak;
- (2) Congressman Ken Calvert for initiating the hearing and for inviting me here to speak;
- (3) The Mayor and City Council of Corona for recommending to the subcommittee that I be included.

Background

I appear before you this afternoon in two related capacities:

First as a scientist and professional researcher --although my usual research has little to do with urban aerial spraying or with the Medfly Eradication Project.

Secondly, as a resident of Corona who lives in the spray zone, I appear before you as a representative of the citizens of Corona and the citizens of southern California at risk for future aerial sprayings.

My concern with the urban aerial spraying program began January 13th as I, along with my neighbors, listened to CDFA Director Henry Voss and his delegation of program officials explain the selective aerial spraying of Corona-Norco.

As I sat there, it was clear to me --and this has been demonstrated time and time again in the nearly four months that have elapsed since then:

- (1) that the CDFA delegation was being less than honest with us in their January 13th

presentation;

(2) that the Medfly Eradication Project has carried with it serious programmatic, planning, regulatory and technical deficiencies; and

(3) that the program as conceived failed to adequately address the potential *long-term* health effects of *repeated* urban aerial sprayings in *real-world* urban conditions --with all of the environmental, genetic and health variables therein implied.

A subsequent review of CDFA, USDA, EPA, CDHS and allied documents *confirmed* and *strengthened* these perceptions --and this in turn led to the preparation of a written summary of my work and to the development of an action plan on its basis.

I have supplied each member of the subcommittee with this document --entitled "Summary of Relevant Issues, Documents, and Concerns Regarding the Joint USDA/CDFA Medfly Eradication Project's Aerial Spraying Program in Corona-Norco"-- and ask that it be entered into the record of these proceedings.

Program Deficiencies

Although I cannot, in the five minutes allotted me, do justice to the scope of the problems presented in my summary paper, let me say that I am concerned about a program that has as many structural, functional and regulatory problems as the joint USDA/CDFA program has. Most particularly, I am concerned about a program that:

(1) while assuring us of the *safety* of repeated urban aerial malathion sprayings, at the same time requires human exposure studies to --in the words of Dr. Lynn Goldman, Assistant Administrator Office of Prevention, Pesticides and Toxic Substances of the EPA-- "enable the EPA to *better*

evaluate the potential human health risks from aerial applications of malathion over residential and urban populations;"

(2) that moves forward while mandated health effects studies are still outstanding;

(3) that still operates with potential gaps existing in the FIFRA 6(a)(2) procedures for identifying unreasonable adverse health effects studies;

(4) that, because of inexcusable delays in the pesticide re-registration process, authorizes the distribution, sale and use of pesticide products under existing registrations with --in the words of Peter F. Guerrero, Associate Director of the Environmental Protection Issues of the Resources, Community and Economic Development Division, General Accounting Office --"*incomplete knowledge of their long-term health and environmental effects;"*

(5) that, given the FIFRA Section 24(c) Special Local Need Notification regulations, has the power to: (a) extend an agricultural program into non-agricultural urban and residential areas; (b) to do this through little more than a notification procedure; and (c) to do this without serious concern that the notification will be challenged;

(6) that, despite an area-wide sterile fly program, is still not certain about the number of sterile flies necessary per square mile to insure medfly eradication;

(7) that, under Section 18 review, allows the CDFA to severely limit the number of aerial sprays and to require that these sprays be implemented only as a last resort, while under the 24(c) process spraying is allowed to be used as a first option to avoid two year quarantine restrictions;

(8) that, despite the passage of four years since the 1989-90 urban aerial sprayings, has been unable to plan for sufficient numbers of sterile flies;

(9) that writes protocols so loosely that a single mated medfly can, however disingenuously,

be used to *suggest* an infestation and trigger the kind of aerial assault that we are now facing in Corona-Norco;

(10) that, in the face of the serious and ongoing medfly problem in California, fails to establish an adequate research program to address technical issues and to develop biological alternatives to malathion spray; and finally

(11) that, for so long, misleadingly represents a political and economic problem of quarantine as a problem of infestation and direct peril to agricultural properties that are *already* being sprayed.

I could go on here but time does not permit. A more complete discussion of these and other program deficiencies can be found in the summary paper provided you. I ask that the members of the Subcommittee on Department Operations and Nutrition read this document, paying particular attention to the legislative recommendations provided in the concluding remarks.

An Historic Alliance and a Call to Action

In closing, let me stress however that the concerns touched on in my remarks before the subcommittee and in my summary paper do not reflect only my concerns. Most, particularly the program concerns, are shared by many in the agricultural industry.

As a part of my action plan I have been meeting with agricultural industry representatives --Mr. Ted Batkin of the CitrusResearch Board and Steve Peirce of Calavo Growers of California-- in an effort to solve the problems before us. This has led to agreements on 95% of the issues and has led to the formation of an *historic* alliance between the agricultural community and citizens' groups in working for constructive change and in calling for state and federal reviews of the

government's Medfly Eradication Program. As Mr. Batkin will be presenting presently, I will defer further remarks, and the presentation of the joint resolution developed after weeks of discussion and passed by the Corona City Council on April 20, 1994, to him.

Because of this alliance, and because the deficiencies of the Medfly Eradication Program have never been so clearly identified, the potential for effective change and mutual cooperation has never been better. The road before us, and the context upon which to build, is clear. If we seize the day and grasp the opportunity, we can move forward in a way never before possible.

We ask for your help in this urgent and timely matter.

Thank you for holding these hearings and thank you for letting me speak here today.

**Summary of Relevant Issues, Documents, and
Concerns Regarding the Joint USDA/CDFA
Medfly Eradication Project's
Aerial Spraying Program
in Corona-Norco**

February 28, 1994

Gordon Bruce McKellar Ph.D.
Director, Research and Information

CITIZENS AGAINST URBAN AERIAL SPRAYING

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General Summary of Relevant Issues, Documents,
and Concerns Regarding the Joint USDA/CDFA
Medfly Eradication Project's Aerial Spraying
Program in Corona-Norco

— Gordon Bruce McKellar Ph.D.

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TABLE OF CONTENTS**PREFACE**

INTRODUCTION	1
1. The Nature of the Emergency	2
1.1 The Physical Evidence.....	2
1.2 The Biological Protocols.....	3
1.3 Governor Wilson's January 21, 1994 State of Emergency Proclamation and the Exploitation of the California Emergency Services Act.....	4
1.4 A Constructed Emergency.....	9
2. A Shortage of Sterile Flies: How Could This Be?.....	10
2.1 The 1989-90 Tri-County Medfly Infestation and the Failure of Medfly Eradication Project Officials to Plan For Future Contingencies	10
2.2 The Historical Record 1991-1994: The Problem of the Sterile Fly Surplus: Mexico, Guatemala and the Failure of Medfly Eradication Project Planners (Revisited).....	13
2.3 The L.A. Basin Sterile Fly Program: Some Basic Computations.....	17
2.4 Persisting Questions Regarding the Nature of the CDFA/USDA's Relationship with the Mexican and Guatemalan Sterile Fly Facilities and the Production Outputs of these Facilities.....	21
2.5 A Created Shortage.....	23
3. Health Issues: The Positions of CDHS, EPA and USDA/APHIS Administrators, and the Concerns of the California State Assembly	24

3.1	The California Department of Health Risk Assessment (1991).....	25
3.2	Concerns of the United States Environmental Protection Agency and the Request for Laboratory and Human Exposure Studies (1991-2)	26
3.3	Human Exposure Studies and the Corona-Norco Urban Aerial Spray Project: Persisting Health Concerns of EPA Administrators, the Continuing Development of Human Exposure Protocols (1994), and the Refusal of State and Federal Officials to Stop the Urban Aerial Spraying of Corona-Norco.....	28
3.4	The USDA/APHIS: The "Record of Decision" for the "Medfly Cooperative Eradication Program Final Environmental Impact Statement — 1993," and the "Medfly Cooperative Eradication Program, Site-Specific Environmental Assessment, Riverside County [Corona-Norco], California — January 1994"	33
3.5	California State Assembly Bill 4209 and Section 39664 of the State of California Health and Safety Code.....	34
3.6	General Accounting Office Testimony: Gaps in the EPA's Procedures for the Identification of Unreasonable Adverse Health Effects Studies	35
3.7	The Health Risks of Urban Aerial Malathion Application: A Summary Statement	39
4.	The Problem of Product Registration: Discrepancies Between the California CDFA and United States EPA Registration Requirements for the Urban Aerial Application of Malathion-Bait Spray.....	39
4.1	The CDFA's (Section 24(c)) "Special Local Need" Notification.....	40
4.2	The United States Environmental Protection Agency (Section 18) Requirements	41
4.3	The Case for the Immediate Cancellation of the CDFA's Section 24 (c) "Special Local Need" Notification	43
5.	The Real Emergency: The Mounting Pressure from Japanese Markets	44

5.1 Japanese Economic Pressure I: Dissatisfaction with the Sterile Medfly Release Program In Southern California, the Corona Find, and the January 7th 1994 Directive to Spray Corona-Norco.....	45
5.2 Japanese Economic Pressure II: Quarantine Conditions, Financial Incentives and the Aerial Spraying of Corona-Norco	47
5.3 A Forewarning: Reports of the CDFA's December 1993 'Secret Plan'	48
6. Concluding Remarks: The Need for Immediate Legislative Action	51
Notes	54
ADDENDUM: Limitations of the Judiciary and the Need for a Motivated 'Action Program': The "General Summary of Relevant Issues, Documents, and Concerns Regarding the Joint USDA/CDFA Medfly Eradication Project's Aerial Spraying Program in Corona-Norco" as the Foundation for Community Action	

PREFACE

Seven weeks ago, without warning and without the appropriate notification of our city, county, state or federal representatives, the joint CDFA/USDA Medfly Eradication Project announced their intentions to begin the urban aerial spraying of an 18 sq.mi. area of Corona-Norco. As it was then planned, the spraying was to begin within eleven days of the announcement.

As the following document will show, the secrecy with which the program was planned and the speed with which it was to be put into effect reflected an important part of CDFA/USDA strategy. Having faced angry protests and court challenges from municipalities that had been subjected to similar sprayings in 1989-90, the Medfly Eradication Project did not want to give the citizens of Corona-Norco time to organize or give the members of the Corona City Council time to mount a legal challenge. Nor did they want to give the members of the Riverside County Board of Supervisors time to review the Medfly Eradication Project or discuss Governor Wilson's Emergency Proclamation — and they certainly did not want to give our state and federal legislators time to schedule formal hearings or in any way make CDFA and USDA officials accountable.

Nonetheless, within days hundreds of citizens from Corona and Norco mobilized and began a series of protests, letter writing campaigns, and public information sessions, the Riverside County Board of Supervisors had reviewed the matters before them in sufficient detail to feel comfortable in publicly expressing skepticism over the proposed Corona-Norco urban aerial spraying program and in questioning the need for an Emergency Proclamation from the Governor of the State, the members of the Corona City Council had set aside \$150,000 to fight the spraying, and the Corona City Attorney had filed papers in the Riverside Superior Court in an attempt to halt it.

It soon became apparent, however, that, in large part because of the constitutional separation of powers upon which our form of government depends there were very real limitations to requests for legal solutions. As Judge Miceli noted in his denial of the City of Corona's first injunction petition, the Court cannot — and will not — substitute its judgment for the judgment of or for the actions taken by officials whose power is derived from either the Legislative or Executive branches of government unless their actions can be shown to be arbitrary, capricious or exceed the authority of the individuals in question. Given the legal, regulatory, and procedural latitude afforded these officials, this is certainly an uphill battle. Were the separation of powers not enforced, however, the Judicial branch of government would effectively *become* the Legislative and Executive branch.

The need for an initiative, complementary to the legal actions that were being taken by the City Attorney and able to more directly challenge the agencies, departments, and officials of the Legislative and Executive branches that empower the Medfly Eradication Project, thus became clear. As our research proceeded, the complexity and interconnectedness of the structural, administrative, regulatory, health, political, economic, and program issues involved in mounting an effective challenge to the Medfly Eradication Project crystallized, and from this the need for two intimately intertwined initiatives came into focus: the need for a coherent research effort, concluding with written summaries of the heterogeneous

though interconnected system of technical, health, political, and economic issues, regulations, procedures, protocols and so on that bear upon the Medfly Eradication Project; and the need for a motivated, coordinated and detailed action plan, rooted in the conclusions of these written summaries, that could help to target specific program officials, administrators, technical personnel, department heads, legislators, reporters, and so on with specific requests, recommendations, questions and issues. Since Los Angeles and Riverside Counties had been through a similar urban aerial spraying program four years earlier, we were surprised to find that summaries of this kind, and corresponding action plans, had not previously been done.

Clearly, this has been to the — obvious — detriment of the municipalities that have been trying to fight the urban aerial spraying program. It takes time to assemble, analyze and summarize information — particularly to assemble it in the case of the Medfly Eradication Project — and few people have the time or the ability to do so. Thus the Medfly Eradication Project is the chief beneficiary. But the Medfly Eradication Project benefits in another, less obvious way as well. If, after delaying notification of their intent to begin urban aerial spraying, the CDFA and the USDA can be assured that communities will have to begin their challenge virtually from the beginning — in many cases wasting time by retracing steps that have already proven to be unsuccessful, or, in devoting time to commonplace matters that should be used for more specific and more constructive inquiry — the position, and the timetable, of the Medfly Eradication Project is strengthened considerably.

The following "General Summary of Relevant Issues, Documents, and Concerns Regarding the Joint USDA/CDFA Medfly Eradication Project's Aerial Spraying Program in Corona-Norco" has thus been written with several needs in mind.

It is written first as the basis of a detailed, constructive action plan, complimentary to though clearly differentiated from the legal actions currently being undertaken by the Corona City Attorney, from which specific questions, issues, information requests, recommendations, and legislative proposals can be drawn, and from which specific actions from program officials, agency directors, administrators, technical personnel, and elected officials can be requested. In the past few weeks we have begun, in a series of preliminary though foundational communications, to contact many of the more important (from the point of view of our action plan) program officials, agency directors, administrators, technical personnel and elected officials, and plan for many more communications in the weeks ahead.

Secondly it is written to provide community groups here in Corona-Norco and for community groups in other areas of southern and central California with information necessary for the fight against the Urban Aerial Spraying Program. In the final analysis, the effectiveness of community action is only as good as the quality of information upon which it is based, and we are concerned that the latest, most complete and most accurate information is made available to all interested citizens. We have been gratified to see earlier, though far less complete versions of this work, circulating throughout the community in the past two months, and have been told again and again just how helpful it has been. Because of the nature of the project, however, we would like to stress that this is a work in progress and interested persons should check to make sure that later versions have not been written. We would also like to ask that, at the point that earlier versions

become out of date, our requests that they no longer be used be respected. These requests have not always been honored. Fortunately the number of cases have been small.

Finally it is written with the members of the Corona City Council, the Riverside County Board of Supervisors, the Corona City Attorney's office, and the corresponding bodies of other municipalities, in mind. Because our local governmental officials, and the office of the Corona City Attorney are committed to the fight against urban aerial spraying in Corona-Norco, these bodies are among the most important consumers of information regarding the Medfly Eradication Project — and can benefit the most from the information, recommendations, and action proposals that have been developed from the kind of current, coherent, and synthetic inquiry that is reflected in the following pages.

Writing a summary of this kind is an inherently difficult undertaking, and it is made even more so by the reluctance of program officials to provide information, by the complexity of the issues involved, and by the bureaucracy underlying the Medfly Eradication Project. Because of this, our work is always a 'work in progress'. Though we strive for accuracy, errors occasionally slip through. For this reason, we actively solicit your comments and corrections.

INTRODUCTION

On January 13, 1994, in response to the find of one pregnant female Medfly on December 17, 1993, state and federal agricultural officials announced their plans to begin the aerial spraying of the pesticide malathion over an 18 square mile area of Corona and Norco beginning January 25, 1994. The applications were to continue for eight additional aerial sprays over the following six month period with the state reserving the right to continue the aerial spraying program if additional Medflies are found.

Despite vigorous opposition from the Corona City Council, the Norco City Council, the Riverside County Board of Supervisors and the citizens of Corona and Norco, despite the existence of many outstanding health issues, the apparent indifference of state and federal officials to state and federal protocols, and inconsistencies in the rationale provided us for the proposed medfly spray, despite the lack of credible evidence that a medfly emergency in any way exists in the Corona-Norco area, and despite considerable evidence that in fact no such emergency exists, Governor Wilson declared a state of emergency in Riverside county on January 21, 1994, formally paving the way for aerial spraying. In this proclamation, Governor Wilson found that *conditions of extreme peril to the agricultural industry and safety of agricultural properties exist within the County of Riverside and that these conditions were caused by the discovery of an infestation of the Mediterranean Fruit Fly on December 17, 1993.*

As citizens of Corona and Norco, we reject this completely.

As Supervisor Norton Younglove noted following the January 8th presentations of state agricultural officials to the Riverside County Board of Supervisors, the current state of emergency in the Corona-Norco area has not been created by a Medfly infestation. It has been created first by state and federal officials responsible for the aerial spraying program — and now by Governor Wilson.

As residents of California and citizens of Corona, we are appalled by biological protocols so loosely drawn that they can, in absence of any credible evidence of an infestation, be so easily manipulated in service of economic and political interests; by an Emergency Services Act so loosely drawn that it too, without credible evidence of an emergency and in areas never intended by its framers, can be so easily manipulated by a Governor who places economic interests before the interests of individuals and communities, who is unmoved by compelling argument¹ and who is unresponsive to the concerns of citizens, the requests of city government, and the appeals of the County Board of Supervisors; by inept planning on the part of the California Department of Food and Agriculture and by the CDFA's decision to begin the repeated aerial spraying of the Corona-Norco area in spite of the number and kind of human health studies that are still outstanding; by a federal 'Special Local Need' pesticide registration process that allows the repeated urban application of malathion, despite serious health concerns, almost at the discretion of CDFA program officials; and by a system structured so as to be immune to public challenge. These are the real forces to be reckoned with.

The following then is a summary of the leading issues, documents, and concerns, largely dismissed and/or disregarded by state agricultural officials, by federal agricultural officials, and by Governor Wilson himself, that have brought us to the current aerial spraying crisis in Corona-Norco. Our purpose is fivefold:

1. To provide a summary discussion of the case against the implementation of the aerial spraying program proposed for the Corona-Norco area;
2. To clarify, given current EPA, USDA and CDFA guidelines, procedures and policies the arbitrary, capricious and politically motivated nature of the Corona-Norco aerial spray program;
3. To highlight areas of the CDFA and USDA Medfly Eradication Program in need of oversight, tighter accountability procedures, and the kind of fundamental checks and balances expected of a program with a potentially significant impact on the public health, on non-target species, and with as great a potential for manipulation by foreign and domestic economic and political interests;
4. To clarify the nature of the California Emergency Services Act and highlight the manner in which it is currently being exploited by Governor Wilson for ends never intended by its framers; and
5. To develop specific legislative proposals to end the urban aerial spraying in Corona-Norco, to tighten current Federal Insecticide, Fungicide, and Rodenticide regulations, and to prevent future situations like the situation in Corona-Norco from ever happening again.

We begin with a short discussion of nature of the Medfly 'emergency' in Corona-Norco.

(The complete report is held in the committee files.)

Statement of

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Honorable Committee members;

The issues you are faced with concerning the Medfly infestations in southern California are both important and timely. The infestations have occurred with disconcerting regularity, leading to the current infestation of unprecedented proportions in southern California. The agricultural and scientific communities, as well as large sectors of the general public, have become increasingly concerned, for various reasons, about the responses of the agencies involved with identifying and treating the infestations. It has become painfully obvious that something is broken and is in desperate need of repair, which is the reason for my involvement in this issue.

In effect there are really two very distinct issues which have become entangled over the years, and the two issues require independent analyses and responses. The issues of concern are 1) the presence of the Medfly, and 2) the aerial application of malathion over urban areas as a treatment for Medfly infestations. Since my expertise is in the field of insect ecology, I will focus on the former and leave the later for others with considerable expertise in the appropriate fields. I have a number of concerns about the program as it is currently being carried out, but will focus on one issue of paramount importance -- the ability of the California Department of Food and Agriculture (CDFA) and the United States Department of Agriculture (USDA) to detect the very insects around which the entire program is structured. It is my professional feeling that our knowledge of pest numbers and distribution is so poor that the eradication programs based on them are condemned to failure from the start -- treatments (of any sort) are begun too late, carried out over too limited a geographical area, and terminated far short of their stated goal, that of eradication of the pest. In effect, over the last 15 years the CDFA and USDA have implemented a "control" program under the guise of an "eradication" program, and the results -- the continued spread of the Medfly -- are injurious to both the agricultural community and the public at large. If the goal is in fact control, then the program should be managed as such. The following pages will briefly detail some of my concerns and recommendations.

Background

My name is Dr. David M. Polcyn. I hold a Ph. D. in Biology from the University of California, Riverside, with an emphasis in insect physiological ecology, and am a biology professor at California State University, San Bernardino. I currently conduct research on the dynamics and distributions of natural insects, but have been very involved with the Medfly issue for over five years. I do not live in, nor have I ever lived in, a malathion spray zone, so I am not coming into the debate with a chip on my shoulder.

Rather, I first became involved with the issue at the request of a local chapter of the American Chemical Society, which asked me to participate as a member of a panel of experts as part of an educational forum they were presenting. When I told them that my expertise was in *natural* rather than *agricultural* populations of insects, they said that was *why* they asked me to participate. They wanted me to take an unbiased look at the data and the program and make my judgments based solely on scientific principles. I was hesitant at first, mainly because I knew how mad the local residents were about being sprayed with malathion and, having never reviewed a government-sponsored program, I thought I would find all their ducks in order and be in a position where I was defending a locally unpopular government program. As I delved into the literature I felt that I must be missing something -- a program this important *couldn't* be conducted in such an unscientific manner. However, the more I learned from both the CDFA and the literature, the more upset I got, both as a scientist and a citizen. Since that time I have worked with numerous citizen groups, participated in several other panel discussions, and have recently been serving as science consultant to the law firm handling the City of Corona's case against the State of California (so I have been present at most depositions, and have read copies of all depositions and declarations to gain further insight into the workings of the program not made public to date). *What I saw five years ago, and am still seeing today, is a scientifically corrupt program* making fraudulent claims to justify their failed programs and to suit their short-term political needs.

Contrary to how some would prefer to portray me, I am definitely *not* anti-agriculture. Rather, I think agriculture has as much to lose from the failed programs as do the millions of citizens who are and have been sprayed with thousands of gallons of malathion against their wishes and the wishes of their elected officials. I am only concerned with the continued spread of the Medfly, and believe, after extensive review of the literature and the program, that **the continued spread of the Medfly in southern California is a result of, not despite, the failed unscientific efforts of the CDFA and USDA.** The CDFA and USDA have resorted to a Chicken Little campaign, relying on hyperbole and hysteria rather than scientific data, to justify both the spraying of a questionable pesticide on urban populations and a continuation of the same old tired, ineffective "eradication" program.

Let me begin by emphatically stating that **the Medfly problem is a scientific problem.** More specifically it is a biological phenomenon. Although there are obvious economic and political ramifications, first and foremost it is a scientific phenomenon. The Medflies are biological organisms displaying biological characteristics and responding to biological and physical parameters of their environments. Therefore, the *solutions* to the Medfly problems must be based on sound science; whether or not the solutions make political or economic sense, or meet the needs of political or economical expediency, the solutions must be based on sound science. Solutions based on, or driven by, bureaucratic and political needs or desires may suffice as very short-term Band-Aids, but they will not solve the problems, and the problems we are experiencing are becoming worse by the year.

Although not officially termed "infestations" each year by the CDFA/USDA, Medflies have been captured in the Los Angeles area numerous times since 1975. Repeat infestations occurred in 1980, '81, '82, '84, '86, '87, '88, '89, '90, '91, '92, '93 and now a record number and dispersion of infestations in 1994. The initial infestations (1975 and 1980) have spread from a single county (Los Angeles) to currently including four counties (Los Angeles, Orange, San Bernardino and Riverside). After every infestation, the CDFA/USDA has declared the Medfly eradicated, only to call each successive infestation a new introduction. The recurring emergencies have been dealt with using either malathion and/or sterile insect releases. Over the years

thousands of Medflies have been captured, with all but one captured in non-agricultural areas (i.e. backyards, parks, etc.). The single exception was in an organic (pesticide-free) citrus grove, which has since been sprayed with malathion and had its natural balance of insects severely disrupted. *The Medflies have never been found within a traditional agricultural setting*, yet the claim is repeatedly made that agriculture as we know it in California will collapse unless the State takes quick and decisive action to eradicate the pest.

Although aerial applications of malathion have been used extensively in the past to eradicate the Medfly, other alternatives exist (nematodes, natural parasites, bacteria, etc.). Due to a lack of urgency in bringing most alternatives to fruition, the only alternative to pesticide use to date is the use of sterile flies. However, the CDFA and USDA have used the excuse "we have exhausted our supply of flies" for many years, and despite building a new facility in Hawaii are once again caught in very predictable situation of having too few flies to treat the current infestation. Thus, they are resorting to the treatments of yesteryear -- pesticides.

While I have serious problems believing that the pesticide treatment protocols are sufficient to eradicate the Medflies (and do believe a concerted biological control effort has a much higher probability of success, as well as acceptance by the affected citizens), my discussion today will center on the underlying basis for the program in the first place -- the presence of the Medfly. Although these might seem like things we *must* already be fully knowledgeable about (and in fact we *should* be fully knowledgeable about), I would like to address basic issues relating to questions such as "Do we know where the Medfly is and where it isn't?", "Do we know if and how fast the infestation is spreading?", and "Do we know when our eradication programs have been effective in eradicating the Medfly?". Unfortunately, the answer to all of these is "No". We are seriously ignorant of the most basic information necessary to plan, implement and successfully carry out an eradication program.

The trapping program

The current Medfly detection and eradication program relies on a series of traps placed at various densities. The densities are 15 traps per square mile ("detection trapping" density) prior to Medfly finds, and increasing densities to 100 traps per square mile ("intensive trapping" density) in the immediate vicinity of a fly find. The traps are baited with Trimedlure, which is a very weak attractant to male Medflies. After an infestation is discovered (based on a mated female, larvae, or a number of other criteria which are rather loosely imposed), intensive trapping and treatment is initiated. This treatment, either in the form of ground spraying, aerial spraying or sterile fly release, is structured to knock the wild population down, eventually to extinction. To determine the effectiveness of the treatment, intensive trapping is carried out for three generations past the last fly find (for some strange reason, it is carried out for more generations in the case of the sterile fly technique); if no more captures are made, the Medfly is considered eradicated and the trapping density returns to the pre-capture level of 15 per square mile.

Trapping inefficiencies and fraudulent claims of eradications -- the fatal flaws

To have an effective eradication program, one must know, with some degree of certainty, two things about the fly populations: 1) where the flies are and 2) approximately how many flies are in an area. This information is used not only to detect and delineate an infestation, but also to know when a population has been eradicated (driven extinct). Although CDFA admits that the traps and bait used in the Medfly trapping program are very inefficient, they have not increased the efficiency of the program as a whole by making two vital changes: first, increasing the density of traps placed in the field to assure a higher probability of capture of Medflies; and second, trapping for far more than the current protocol of "three generations after the last fly find" to declare eradication. Thus, due to **terribly compromised trapping protocols**, the CDFA/USDA program provides little *if any* information about *either* question. The current program does not allow one to say, with any degree of certainty, where the Medfly does *not* exist, and most certainly does not provide the proper information to state "the Medfly has been eradicated" after a

particular treatment program. Yet, the program continues unhindered. Only through very unscientific analysis of the data, and redefining the term "eradicated", has the CDFA/USDA been able to propagate, year after year, the fraudulent claims of eradication. It is not surprising, then, that the Medfly continues to pop up year after year within the same general areas, and that the extent of the infestation has reached the proportions we are facing today.

Without going into too much mathematical modeling, let me attempt to put the trapping inefficiency into perspective. To do this, I will use two sets of numbers -- one set from the empirical data in the scientific literature, the other set that which is used by the CDFA in the current program.

Although there has been *very* little research conducted on the trapping efficiencies associated with methodologies applied in the current (southern California) eradication program, several studies have been made. One of the most thorough studies, conducted by Cunningham and Couey (1986), developed a model of trap efficiency as a function of distance from the trap. Using their model, one can arrive at the probability of an entire trap grid (or trapping program) catching flies over an entire Medfly generation (30 days or more, depending on temperature). Based on this study, it was concluded that at trap densities of 10 traps per square mile, there is slightly more than a 4% probability of catching flies; at a density of 100 traps per square mile, there is slightly more than a 25% probability of catching flies (these probabilities, remember, are *over the entire life span of a generation*). In other words, at densities of 10 and 100 traps per square mile, the probabilities of *not catching flies* are 96% and 75%, respectively. Yet, 10 traps per square mile is the number used to detect initial infestations, and 100 traps per square mile is the highest trap density used immediately around a fly find site. These efficiencies, although abysmal, are actually highly *over inflated*, and the true capture efficiency in California is only a fraction of the 4-25% reported. This discrepancy is due to the manner in which the study by Cunningham and Couey (1986) was carried out; their study involved releasing hundreds of Medflies in a macadamia nut orchard and capturing the flies in traps placed within an experimental trap grid. Since macadamia nuts are not suitable hosts for the Medfly, it is expected that the flies in a macadamia orchard would tend to travel greater distances in a shorter time than if there were

suitable hosts available. Thus, more flies moving greater distances equates to a higher trapping success. However, it is well known that once Medflies find a suitable host tree, they may *never* leave that host tree during their *entire lifetime*. Dr. Robert Dowell, Primary State Entomologist at CDFA and Executive Secretary of the State Medfly Science Advisory Panel, has estimated that the probabilities generated by Cunningham and Couey are over inflated by a factor of "five to tenfold". This means that, in the current program in California, the CDFA/USDA have a 0.4% probability of catching flies in their detection trapping programs, and a 2.5% probability of catching flies in their "intensive trapping" program following a fly find. This, of course, means that *there is a 99.6% and 97.5% probability, respectively, of not trapping flies even though they are present*. This is what the entire program is based on. The claims of an infestation, the claims of knowledge of the geographical extent of the infestation used to define treatment zones, and the eventual claims of eradication are based on a *lack of knowledge* and an extremely poor trapping protocol. If one of my graduate students proposed to study an insect population with such poor protocols, they would be summarily chastised; the trapping program underlying the entire CDFA/USDA eradication program would not even be worthy of serving as a baseline for Master's level research!

To defend their continued ignorance of fly distributions and densities, the CDFA uses the economic argument -- it is too costly to increase trap densities to the number necessary to assure even "good" trap success (over 1000 traps per square mile to reach 50% probability of capture!). Although this economic argument may be true, it is insufficient for two basic reasons. First, if the threat of the Medfly is as great as the CDFA, USDA and agriculture community claim (with billions of dollars at risk), then there should be a concerted effort to fund such a vital part of the program. Second, if the program is going to succeed, information on Medfly abundance and distribution is of paramount importance; without this information, the "eradication program" is nothing more than a choreographed series of motions set in place to placate our trading partners, which in *no way* should be couched as a scientifically based eradication effort. This lack of science is what has led to the yearly spread of the Medfly, and the spraying of millions of unwilling residents with malathion-laced bait over the last 15 years, and which will only foster the

spread of the Medfly in the years to come. Basically, *the Medfly has become widespread because of the efforts of CDFA and USDA, not despite them.*

In a similar fashion, CDFA uses an estimate of 0.1-0.5% trap efficiency in both its sworn testimony (declarations and depositions) and public comments. By stating that the capture of a single Medfly could equate to a population of 200 to 1000 or more *adult* Medflies in the wild, CDFA is admitting that the entire trap grid, over an entire generation of adults, has a capture probability of 0.1%-0.5%. Of course, this equates to a probability of *not capturing flies, even though they are present, of 99.5% - 99.9%*. These numbers are in line with the research by Cunningham and Couey.

Of course, with such a high probability of *not* finding flies even though they exist, it is not hard to see why CDFA and USDA are able to declare flies eradicated year after year, only to see them reappear in a fashion identical to what would be expected of an established, spreading population. Their lack of capture for three generations following treatment is also what is to be expected given that the fly populations have been temporarily knocked down by the treatment program. As has been modeled by James Carey, there is probably some "threshold level" below which detection is almost impossible given the poor trapping protocols; once a population exceeds this detection threshold and is detected, an eradication program knocks the population back down below the detection threshold, but *not to zero*. However, before the population is able to grow back to threshold levels (due to lack of time, lack of suitable host or lack of suitable weather), the CDFA and USDA proclaim eradication and reduce the trap densities back to detection level. To explain repeated reoccurrences of Medflies within the same general areas, and the ever-increasing spread of the infestation, CDFA and USDA has had to resort to a "recurring infestation" hypothesis.

The recurring infestation myth -- an insult to logic.

The Medfly infestation history and dynamics are a textbook example of an established population slowly spreading over the years. However, the CDFA and USDA have relied on the naiveté of the general public, agricultural community and politicians to promote the idea that each

infestation is effectively eradicated, hence each new infestation is due to a unique introduction from outside the State. The basic claim is that certain people are routinely circumventing the import laws and bringing uninspected fruit into the country, either through the mail or via airline cargo. The fruit which is carrying Medfly larvae is carelessly disposed of, and the larvae complete development and thus give rise to a breeding population of adults. This is not only an insult to the particular ethnic groups routinely targeted as the culprits, it is an insult to scientific theory and scientific logic. Without going in to the entire theory behind invasion biology, I will mention a few inconsistencies which should, on their own, discredit the multiple reintroduction scenario.

First, introduction of a pest like the Medfly is in reality no easy task. Unlike a common house fly, which could go through their life stages (egg - larvae - pupae - adult) in an open trash can or in a garbage pile, Medflies have particular needs which must be met. In particular, the larvae must burrow into the ground to undergo pupation; this isn't just "any old ground", but must have conditions similar to that under fruit trees. Thus, to begin the process, an individual must almost intentionally throw the infested fruit in a suitable habitat, such as under a fruit tree, or the life cycle will end there; the vast majority of illegal fruit most likely never finds such a suitable site to begin with. However, in the unlikely even this should happen, upon emergence from the soil adult females must then find suitable food and suitable host plants to lay eggs on, and also must find at least one fertile male for mating. Since any single fruit will have only a limited number of larvae, a small number of adult flies would be expected to emerge from a host fruit even under the most favorable conditions. As adult flies emerge, they disperse to find suitable hosts; this dispersal, in all directions over an emergence period of several days, further reduces the likelihood that a fertile female will meet and mate with a fertile male. However, in the unlikely event that the flies have passed all the hurdles so far, and has not met with any other fatal ending (pesticides, windshields, fly paper, birds and other natural predators, etc.) the female must now mate and find a suitable host tree and deposit her eggs into the fruit and hope that that fruit will remain on the tree long enough to rot and fall to the ground, allowing the life cycle to repeat. Any harvesting of the fruit at this time will cut the cycle short and prevent successful establishment. With exotic

pests in general, and Medflies in particular, it is widely understood that establishment of a new population, although possible, is rather unlikely.

Second, if the Medfly were being reintroduced over and over as CDFA and USDA claim it has been (despite the obstacles mentioned above), the patterns of Medfly infestation argue unquestionably that the multiple reintroduction theory should be discarded. Although there are several patterns which serve to support this claim, I will only detail one. If the Medfly is routinely imported via mail and or air freight, then we should see similar outbreaks in similar communities. As a test case, consider the greater San Diego area, which is probably superior to the greater Los Angeles area in terms of both climate and host availability. However, we do not see the same pattern in San Diego as we do in the Los Angeles basin. San Diego has plenty of host trees, a very favorable climate, and a diverse assemblage of ethnic groups, yet the pattern of repeated infestations only seems to occur in the Los Angeles basin. And the infestations seem to be radiating out from the area where the first flies were captured in 1975 and 1980, and only recently have begun to approach San Diego from the north (a Medfly was recently found in Fallbrook, located midway between the Los Angeles basin infestation and San Diego). This same scenario could be erected for numerous other localities in southern and central California -- why just the Los Angeles basin? So, once again, both the evidence and logic support the spreading infestation hypothesis much better than the multiple introduction hypothesis.

After many years of urging by numerous scientists, the CDFA has finally released a small number of samples for genetic analysis (much like the "genetic fingerprinting" used in many modern criminal cases). This should give us very strong evidence to support either theory. While the amount of material CDFA has released for analysis has been far too small to come to definite conclusions, the results are entirely consistent with the introduction-spread hypothesis and rule out the "multiple introduction from Hawaii" model the CDFA had stuck to for years (now they have resorted to a "multiple introduction from 'somewhere'" hypothesis). The data definitely rule out Hawaii as the source of all the infestations analyzed to date, and furthermore show that all the infestations analyzed were similar to each other (which is exactly what you expect if an initial population has expanded out to surrounding areas over the years).

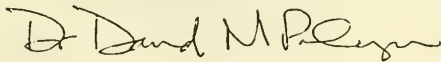
Thus, to believe the CDFA/USDA theory of recurring multiple introductions followed by multiple eradications, one has to not only ignore the scientific models widely used to understand pest introductions and spread, but must also rely on numerous far-fetched assumptions about the distribution and dynamics of illegal fruit introductions. Yet the myth continues, with its only basis being the "fact" that the trapping failed to detect flies for three generations, so they "must have been eradicated".

The need for independent scientific review

A reoccurring emergency is not an emergency at all -- rather, it is an indication of poor planning, decision making or administration. How much of this is based on flawed science is hard to determine, but it is abundantly clear that there is a fundamental problem with the way science is being handled within the Medfly eradication program. Many scientists, myself included, are asking for a truly independent review of the program from a purely scientific perspective. We want the program brought out into the open, out from behind the facade of a recurring emergency and from behind the thin veil of science. With no offense to legislators, I would suggest that most politicians can't tell good science from bad science, especially since the CDFA and USDA have proven to be very effective at scientific double-speak masquerading as science. I would plead for the legislators to support an independent panel of scientists, experts in their fields but *independent of agricultural biases and conflicts of interest*. Such a panel could be compiled by either the National Academy of Sciences, or the California Academy of Sciences, or another similar scientific (but non-agricultural) body of scientists. Let the scientists review the scientific merits of the programs and report back to the appropriate legislative bodies. Unfortunately, it appears that only through legislative hearings and independent scientific evaluation will we be able to alter the ineffective programs currently embraced by CDFA and USDA. *The perpetuation of the current program is a lose-lose situation*, bad for the citizens experiencing repeated sprayings of malathion, and bad for the agricultural community faced with continued spread of the Medfly. 15 years of repeat Medfly infestations is evidence that something is *very* wrong and needs fixing, and neither CDFA nor USDA appear to be up to the task.

I thank you for your time and concern about this very important issue. I am dedicated to seeing this issue resolved and will help in any way I can.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Dr. David M. Polcyn". The signature is written in a cursive style with a large initial "D".

Dr. David M. Polcyn

Department of Biology

5500 University Parkway

California State Univeristy, San Bernardino, CA 92407

(Attachments follow:)

Endorsers of Joint Statement Opposed to Urban Aerial Pesticide Spraying

NATIONAL GROUPS

Greenpeace
 Humane Society of the United States
 Mothers and Others for a Liveable Planet
 Pesticide Action Network North
 American Regional Center
 National Coalition Against the Misuse
 of Pesticides (NCAMP)
 Sierra Club
 United Farmworkers of America,
 AFL-CIO

LOCAL AND REGIONAL GROUPS

ACTION NOW (CA)
 Action for a Clean Environment (GA)
 Agricultural Resources Center (NC)
 Arizona Toxics Information
 California Coalition for Alternatives to
 Pesticides
 Californians for Alternatives to Toxins
 California Institute for Rural Studies
 Center for Community Action and
 Environmental Justice (CA)
 Chemical Injury Information Network,
 Texas Chapter
 Chemical Injury Information Network,
 Georgia Chapter
 Citizens Against Pesticide Misuse (TX)
 Citizens for a Toxic Free Marin (CA)
 Collette Chuda Environmental Fund
 (CA)
 Community Alliance of Family Farmers
 (CA)
 Concerned Citizens of Corona & Norco
 (CA)
 Cooperative Resources and Services
 Project (CA)
 Eco-Action (GA)
 Eco-Home (CA)
 Environmental Awareness Foundation
 (CA)
 Environmental Health Association (CA)
 Environmental Health Coalition (CA)
 Environmental Health Network (AZ)

Federation of Self Help Associations
 (LA)
 Florida Bi-Partisans Civic Affairs Group
 (FL)
 Friends of the Everglades (FL)
 Fuzzell Nurseries (FL)
 Georgia Environmental Organization
 Georgia Health Information Network
 Group for Alternatives to Spraying
 Poisons (CA)
 Justiceville/Homeless USA (CA)
 LA Eco Cities Council (CA)
 LAW/CAUS (CA)
 Louisiana Citizen Action
 Louisiana Environmental Action
 Louisiana Injured Workers Union
 Lynn's Foliage (FL)
 Madres De Este Los Angeles-Santa
 Isabel (CA)
 Manasota 88 (FL)
 Mothers Opposed to Poisoning (TX)
 Mother to Mother: Another View (CA)
 Mow Our Weeds (CA)
 National Center for Environmental
 Health Strategies (NJ)
 National Coalition Against Pesticide
 Abuse (CA)
 New York Coalition for Alternatives
 to Pesticides
 Northwest Coalition for Alternatives to
 Pesticides (OR)
 Parents for Pesticide Alternatives (GA)
 People Against Homefront Chemical
 Warfare (CA)
 Pesticide Watch (CA)
 Protect All Children's Environment
 (TX)
 Protecting Environmental and Ecological
 Resources - Plaquemines Parish (LA)
 R.E.A.C.H., International (NM)
 Remedy Our Laws (CA)
 Ridge Audubon Society (FL)
 Robinhood Foundation (CA)
 Rural Law Center (FL)

Endorsers of Joint Statement Opposed to Urban Aerial Pesticide Spraying *Continued*

San Fernando Valley Environmental
Association (CA)
San Geronio Chapter of the Sierra
Club (CA)
Seniors for Political Action (CA)
South Carolina Vegetarian Society
Southern Research and Development
Corporation (LA)
Wimberly Citizens for Alternatives to
Pesticides (TX)
Texas Chemical Connection
Texas Clean Water Action
Volunteers for a Healthy Valley (CA)
Wolf Mountain Sanctuary (CA)

CONCERNED EXPERTS

Mary Allen, Attorney at Law (CA)
Mona DeFries (LA)
Paul Fleiss, M.D.
Cathie Lippman, M.D.
Molly McKasson, Councilmember, City
of Tucson (AZ)
Janet Marcus, Councilmember, City of
Tucson (AZ)
Cynthia Marquez (FL)
Karen J. Nudell, Los Angeles Superior
Court Commissioner (CA)
David M. Polcyn, Ph.D., California State
University, San Bernadino
Richard Sigler, Attorney at Law (CA)
Raymond Singer, Ph.D. (NM)

JOINT STATEMENT OF
A NATIONAL COALITION OF GROUPS AND EXPERTS
OPPOSED TO
URBAN AERIAL PESTICIDE SPRAYING
FOR COOPERATIVE MEDFLY ERADICATION PROGRAMS

CALL TO ACTION AND BASIS OF CONCERNS

I. CALL TO ACTION

The national coalition of scientists, doctors and community and environmental organizations hereby calls upon Congress and the Administration to do the following:

A. THE PRESIDENT SHOULD ISSUE AN EXECUTIVE ORDER REQUIRING AN IMMEDIATE CESSATION OF ALL AERIAL SPRAYING OF PESTICIDES OVER RESIDENTIAL AREAS FOR MEDFLY ERADICATION:

The pesticides being used and proposed for use under the Medfly eradication program are the neurotoxic pesticides malathion, diazinon and chlorpyrifos, known as organophosphates. Organophosphates are known to have serious deleterious effects on the human nervous system and the immune system. They are nerve poisons, which act by inhibiting the enzyme acetylcholine esterase (AChE) and probably act at other sites in the nervous system as well. Organophosphates have been shown to cause blindness in laboratory animals. Further, in 1990, there was a case report to the EPA in which a young boy went blind after being directly sprayed by eradication program helicopters. Cases of long-lasting polyneuropathy and sensory damage, as well as behavioral changes, have been reported in humans, exposed to malathion. In fact, malathion was found to cause behavioral changes at levels at which the standard hospital test for organophosphate poisoning would be negative. Common symptoms reported after exposure include nausea, headaches, dizziness and upper respiratory distress, as well as numbness and muscle twitching. There is ongoing controversy over whether malathion, exclusive of any trade secret inert ingredients, is or is not a carcinogen. The latest EPA review of the data base points out a large number of deficiencies, including chronic effects, carcinogenicity, mutagenicity, teratogenicity, reproductive effects, metabolism and environmental fate.

The U.S. Department of Agriculture (USDA)/ Animal, Plant and Health Inspection Service (APHIS) acknowledge in the *Medfly Cooperative Eradication Program Final Environmental Impact Statement (FEIS)*, released in November, 1993, that the use of chemicals in eradication programs will adversely affect the health of some individuals in the eradication areas and that mitigation is impossible. USDA/APHIS abdicated its legislatively-mandated responsibility to protect the public health when it stated:

The nature of chemical sensitivity is so variable (cause and severity) that it

would be difficult, if not impossible, to develop mitigation measures that would accommodate all potential situations. *In APHIS' view, the individuals themselves should bear the primary responsibility for their protection*, according to their individual needs, and should use the same precautions that they would for other low-level chemicals present in their environment. [FEIS, p. A-24, *emphasis added*]

Citizens of the United States have been afforded equal protection under the Constitution and the law, and this statement flies in the face of our rights in a democratic society.

B. THE U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA) SHOULD PROHIBIT WIDESPREAD USE OF NEUROTOXIC PESTICIDES IN ERADICATION PROGRAMS CONDUCTED IN RESIDENTIAL AREAS.

The positions above serve as the basis for this position, given the devastating health impacts that neurotoxic pesticides can have over the short- and long-term.

C. THE U.S. DEPARTMENT OF AGRICULTURE SHOULD IMMEDIATELY ADOPT AND IMPLEMENT A BIOCONTROL PROGRAM USING A COMBINATION OF CONCURRENT RELEASES OF PREDATOR WASPS, NEMATODES, AND STERILE FLIES ALONG WITH CLEAN CULTURE (i.e., minimizing fruit falling to the ground and harvesting all fruit).

The wasps and nematodes have been proven effective against more than one species of fruit fly as well as other urban pests like fleas, cockroaches, and termites, and have been demonstrated to enhance the effectiveness of the sterile insect technique. Programs using these elements in combination have been shown to be effective in field trials over the past ten years in Hawaii, Guatemala, and Mexico. A similar program is being used against Caribbean fruit flies in Florida and against Mexican fruit flies in the Rio Grande Valley in Texas. Four major chemical companies, including Ortho, are now marketing the nematodes under a variety of labels for a variety of pests, and BioSys in Palo Alto, California, has a label for a commercial formulation for organic farmers that lists Medfly as one of the pests it works against. Current law already allows the cooperative agencies discretionary authority to adopt such alternatives into eradication programs. The President must ensure that the cooperators comply with their legal mandate to seek and employ the least hazardous alternatives in eradication programs.

D. THE U.S. DEPARTMENT OF AGRICULTURE SHOULD ESTABLISH EQUAL QUARANTINE TIME PERIODS FOR AREAS TREATED CHEMICALLY AND BIOLOGICALLY AND THEREBY ELIMINATE THE ECONOMIC HARDSHIP NOW IMPOSED BY A TWO-YEAR QUARANTINE IN AREAS TREATED UNDER AN INTEGRATED BIOCONTROL PROGRAM.

Currently, growers in quarantine areas who are subjected to a chemical eradication program with aerial and ground application of organophosphate pesticides are

prohibited from selling their crop for six months. At the same time, growers in quarantine areas subjected to an integrated biocontrol program would be unable to sell their crop for two years. This discrepancy, which is not founded in science, has forced growers to accept and, in fact, require the chemical approach. To not do so would be economic suicide under current policy. The policy serves to pit growers concerned about their economic survival against residents in the spray area. Since the policy does not square with scientific analysis of reinfestation after application, there is no sound basis for it continuing. This quarantine policy, then, serves only as a disincentive for incorporating non-pesticide alternatives into eradication programs.

For example, the Corona/Norco area is being forced to endure multiple aerial sprayings so that the growers will only be subject to quarantine restrictions for a six month period, as opposed to the two year quarantine that would be imposed if the area utilized ground spraying and the release of sterile flies. This is the first time in the history of the program that such a policy has surfaced. USDA/APHIS and the participating agencies must justify this policy by revealing its underlying scientific basis. At face value, this seems to represent an attempt by the cooperating agencies to economically blackmail the growers, forcing their endorsement of urban aerial spraying. Trade partners have consistently alleged that USDA/APHIS has historically stepped in and negotiated unfair trade restriction disputes between various states and countries, and have even sued to force compliance with their policies.

E. THE U.S. DEPARTMENT OF AGRICULTURE SHOULD REQUIRE FULL PUBLIC NOTIFICATION OF ANY SPRAY ACTIVITIES AND INCLUDE WARNINGS OF POSSIBLE HUMAN AND ENVIRONMENTAL EFFECTS OF PESTICIDE APPLICATIONS.

When the public is forced to be involuntarily exposed to toxic chemicals in chemically-intensive eradication programs, the public has a right-to-know what they are being exposed to, what the hazards of exposure are, who is at risk, and what precautions must be taken to reduce and/or eliminate potential risks. Congress must fully evaluate the inadequacies of the current notification information as well as the procedures and protocols that determine when and to whom such information is given. Congress must mandate immediate changes so that the scope and type of information provided to spray area residents meet these requirements. In addition to the existing information on mitigation measures, public notice information must include: (1) a listing of the sensitive subpopulations identified in the 1991 California Department of Health's risk assessment, as well as any other at-risk groups identified by other public health experts, researchers, or private-practice physicians; (2) at a minimum, the precautions listed on the product label, as is currently required under the state of California's 24(c) Special Local Need registration; (3) a listing of each United States Environmental Protection Agency (EPA)- registered pesticide being used in the quarantine area (including the registration number); (4) information on the breakdown and transformation products; (5) information on the hazards associated with exposures to all of these various pesticides, including discussions of the synergistic and/or potentiating effects of simultaneous exposures and their metabolic detoxification or activation potential; and (6) the signs and symptoms of poisoning so residents can assess whether or not they need to seek the help of a physician in diagnosis and treatment. Such information must also be provided to physicians and other health-care professionals, school nurses,

teachers, school and park superintendents, and anyone else in the quarantine areas that is responsible for assuring public health protection.

F. THE U.S. ENVIRONMENTAL PROTECTION AGENCY SHOULD REQUIRE ADVERSE EFFECTS REPORTING RELATED TO ERADICATION PROGRAM ACTIVITIES AND FULL TESTING OF PESTICIDES.

Congress must order the EPA to enforce the incident gathering and reporting requirements under the *Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)* section 6(a)(2) when toxic or adverse effects related to eradication program activities are reported by doctors to state, federal, or other registrants. Failure to report such information to EPA is an actionable violation of FIFRA. Enforcement action must be taken by oversight agencies charged with protecting public health. Such data must also be factored into all decision-making directed at granting or denying exemptions from registration. The oversight agency should be in charge of assessing proper reporting requirements and procedures, and should make those requirements and procedures clear to the participating agencies, exposed spray area residents, doctors, and elected officials. Enforcement of reporting requirements should be codified and mandated by Congress.

(i) EPA should conduct hearings to define "significant adverse health effects" and the threshold for enforcement actions.

Congress should conduct additional oversight hearings that include public and agency input for the purposes of providing a clear definition of the term "significant adverse health effects" and to determine the number of reports an oversight agency must collect before enforcement action is undertaken or approval of the program is withdrawn. For instance, how many reported cases of blindness must be received before the program is deemed too hazardous to be allowed to continue?

(ii) EPA should require completion of toxicity studies, risk assessments and hazard evaluations prior to allowing pesticide applications.

Pesticides should not be allowed to be used in government eradication programs unless the manufacturers have supplied the basic toxicity studies (including the chronic toxicity studies), the studies have been reviewed and approved by the EPA for labeling purposes, and a risk assessment and hazard evaluation for the proposed use have been performed. The risk assessment and hazard evaluation must include full consideration of the potential health effects of all the inerts contained in the formulations, and the breakdown and transformation products to which spray area residents are exposed. Information indicating that some active ingredients may be metabolized into more highly toxic compounds in the bodies of persons who lack the ability to detoxify the pesticide, must also be considered and factored into the risk equation. Congress should immediately enact legislation mandating these requirements prior to authorizing the use of pesticides in ways that are not listed on the product label, which is currently the practice in eradication programs.

G. THE U.S. DEPARTMENT OF AGRICULTURE SHOULD EVALUATE EFFICACY OF ALL CURRENT AND PROPOSED ERADICATION APPROACHES.

Congress must also demand a full evaluation of the efficacy of chemically-intensive eradication strategies, including an assessment of product performance, as required by FIFRA. Since the joint cooperative agencies have acknowledged that eradication was not achieved in 1992-93, and residual satellite populations survived eradication attempts, the potential for insect resistance to have developed must now be considered. Efficacy studies using wild flies from the established infestation areas should be conducted.

(i) Congress should review the "emergency" determination.

Congress must determine whether the agencies are complying with the current legal definition of "emergency" as it is defined in the *National Environmental Policy Act* and FIFRA, since the on-going nature of the program has been acknowledged by USDA \APHIS in a request for an emergency exemption submitted to EPA for approval.

H. CONGRESS SHOULD CONDUCT AN INDEPENDENT REVIEW OF THE SCIENTIFIC BASIS OF THE CURRENT PESTICIDE-INTENSIVE ERADICATION PROGRAM THROUGH AN INDEPENDENT BODY THAT INCLUDES SCIENTISTS, GROWERS AND THE AFFECTED PUBLIC.

Congress must take the politics out of the Medfly eradication program by ensuring immediately that all scientific issues relating to adverse impacts on health and the environment and efficacy of the eradication program are reviewed. It is absolutely essential, given the millions of people that are potentially affected by the pesticide spray program that the current eradication strategies and assumptions are independently evaluated with a report to Congress.

II. BASIS OF CONCERNS

The *Final Environmental Impact Statement for the Medfly Cooperative Eradication Program (FEIS)* was released in November, 1993 by the United States Department of Agriculture/ Animal, Plant and Health Inspection Service (USDA /APHIS). The document reveals USDA /APHIS' intent to implement a National Medfly Eradication Program which potentially targets nine southern states for future eradication activities employing the "preferred alternative" of aerial and/or ground spraying of malathion-bait along with soil drenches of diazinon or chlorpyrifos when larvae are found. Although a "joint cooperative effort" between federal and state agencies, USDA /APHIS acknowledges responsibility as the lead agency for the program. USDA /APHIS has also acknowledged that the programs in all nine states have similar features, are broad in scope, and can be reasonably planned in advance, which is the reason for preparing and finalizing the *FEIS*.

The ongoing nature of the proposed and current program defies the definition of "emergency" found in federal law. Yet, state and federal agencies operate under the

declaration of emergency in order to receive state and federal taxpayer funding to operate the programs, obtain emergency exemptions from the registration requirements of federal law, and preempt of local authority.

Currently, the Corona/Norco area in Riverside County, California, has undergone six aerial sprayings of malathion-bait and is scheduled to receive at least two to four more, after a single mated female Medfly was found in the area in December, 1993. The Los Angeles Basin, after the discovery of over 400 adult flies and 35 larval property finds in 1992-93, is undergoing a two- year program of massive releases of sterile Medflies, coupled with ground- based spraying of malathion-bait and diazinon soil drenches where wild flies or larvae are detected. The two-year sterile release program will be reevaluated in December, 1994 and program officials have made it clear that they still maintain their option to resume aerial spraying if the project fails to meet its objectives. Clearly, the massive aerial spraying campaign conducted in the Los Angeles basin areas in 1989-90, involving 153 aerial applications of 509,583 pounds of malathion-bait over a 595 square-mile area containing approximately 1.6 million people, failed to achieve eradication. Not only were two flies found a week after eradication was declared in 1990, but the recent finds are located in many of the same areas sprayed in 1989-90.

The need to carefully scrutinize key program elements that have engendered public opposition in past and present eradication attempts has finally been acknowledged by Congressional members as the program expands and more constituents are adversely impacted. While the public applauds the convening of oversight hearings, in order for those hearings to achieve credibility, responsible agencies must be held fully accountable for the entire range of adverse impacts caused by exposures to eradication program activities. Such a hearing should also provide a thorough evaluation of all the potential alternatives that would effectively reduce or eliminate such adverse impacts. The following list of concerns further elucidates the need for expanding the scope of such hearings.

INCIDENT MONITORING AND REPORTING

CONCERN 1: Physician reports of illness are being received by local, county and state health departments in the current spraying of Corona and Norco, but are not being passed on to the U.S. Environmental Protection Agency (EPA) as required by the *Federal Insecticide, Fungicide and Rodenticide Act (FIFRA)*, in compliance with the requirements of the FIFRA section 18 emergency exemption permit, as well as requirements for registrants under FIFRA section 6(a)(2). Further, state and county personnel have indicated they believe five physician reports of illness per event need to be received before an investigation is launched. If an investigation is deemed warranted, it consists solely of evaluating whether the spraying complied with the application rate provisions allowed under the emergency pesticide permit, while illness reports are not verified or evaluated.

Documented adverse health effects have been reported to EPA by health care professionals, both in the current Corona/Norco area and in the Los Angeles area during the 1989-90 aerial spraying. Incident reports must be factored into risk assessments of program impacts and should provide the basis for the evaluation of

endpoints of concern. EPA should be relying on this data to deny the participating agencies continued exemption status instead of requiring more studies before regulatory action is taken to protect public health.

PUBLIC NOTICE REQUIREMENTS

CONCERN 2: Public notice is listed in the USDA/APHIS *FEIS* as one of the main ways to mitigate the potential for adverse health effects. However, past notices to spray area residents have not always been distributed to all citizens in the spray area, have not been delivered in a timely manner, have not been drafted in all the appropriate languages, and have not contained the precautions listed on the product label, all of which is required by the State of California's Special Local Need registration requirements.

CONCERN 3: Residences adjacent to spray areas are not given notice, except through the media, although drift and overspray incidents continue to occur on a regular basis in eradication programs.

REREGISTRATION

CONCERN 4: It is our understanding that USDA/APHIS (and possibly other state registrants) have expressed a willingness to cooperate with EPA in gathering human exposure data for the purposes of reregistering malathion.

CONCERN 5: Exposing people against their will to toxic chemicals, as is currently being done in eradication efforts, and then studying them for adverse effects is foolhardy when basic chronic toxicity data has not been submitted to EPA for evaluation in the reregistration process. This constitutes human experimentation. One is forced to ask what information formed the basis for EPA's initial approval of aerial spraying over densely populated areas for fruit fly eradication programs.

CONTAMINANTS, INERTS, TRANSFORMATION BYPRODUCTS, METABOLITES

CONCERN 6: EPA does not currently factor into risk assessments the potential for exposures to the full range of contaminants, inerts, transformation byproducts, and metabolites, and their potential to result in adverse health effects.

SOCIOECONOMIC CONSIDERATIONS

CONCERN 7: Past eradication efforts have been extremely unpopular and controversial, especially when conducted in heavily populated urban areas. The public often views the program as an abrogation of constitutional rights and freedoms as all local authority is preempted, and private property is seized, trespassed upon, and sprayed with poison. Consequently, not only does the program override the democratic process, but the lack of public support and cooperation present an ever-increasing threat to the Agency's ability to achieve program objectives.

EFFICACY

CONCERN 8: Eradication programs have been ongoing in California since 1986, yet more flies are being found each successive year, indicating the obvious failure of malathion-bait spraying to achieve the program goal of eradication.

SCIENTIFIC BASIS FOR DETERMINING APPLICATION RATES

CONCERN 9: The current malathion application rate being used in California has been adjusted from 2.4 oz. in 1980-82, to 1.2 oz. in the current aerial spraying program in Corona/Norco. However, no explanation has been provided by the responsible agencies as to why and/or how these rates are determined and approved for use in eradication programs.

STERILE INSECT TECHNIQUE (SIT)

CONCERN 10: Sterile flies have been touted as a critical component of eradication strategies, and a recently convened international panel of scientific experts recommended more reliance on SIT and less reliance on chemical controls. This panel went so far as to say that one aerial spraying of malathion-bait to kill mated females might be "useful, but not essential." The purpose of the one spraying would be to reduce the number of steriles needed and the number of releases required. However, time and again participating state and federal agencies have used a lack of sufficient numbers of steriles as an excuse to resort to multiple aerial malathion-bait sprays. The recent discovery of a single mated female Medfly in an area in close proximity to commercial growing areas is being used as yet another excuse to employ multiple aerial sprayings with no plans by participating state and federal agencies to ever allocate sterile flies to the Corona/Norco areas.

CONCERN 11: EPA's Q & A on Medfly Spraying in California, dated 2/23/94, states that the Medfly Science Advisory Panel determined that:

... releasing sterile male Medflies to interrupt the breeding cycle is only effective if mating hasn't yet occurred. It is too late to interrupt the breeding cycle in Corona (Riverside County) because a pregnant female Medfly has already been found there. In the case of the Los Angeles basin, fertile female Medflies have been found, but none were pregnant, thus there is still time to disrupt the breeding cycle by releasing sterile male Medflies.

There is no consideration in this quoted statement of the 35 larval properties that were also found in the Los Angeles basin, providing a clear indication of a reproducing population.

Further, the trapped single mated female Medfly never had a chance to lay her eggs in the Corona/Norco area. Even if eggs were laid by other pregnant female flies (although no subsequent finds have been made), the emerging young adults should be seeking mates, and sterile flies could be ready and waiting to disrupt mating when these young adults emerge from the soil. Under the current program with no sterile fly releases, if significant rainfall occurred between the biweekly aerial spraying program,

sufficient time might elapse for successful mating to occur among the newly-emerged flies before reapplications could be made.

CONCERN 12: Improperly dyed sterile flies caused misidentification problems in the past. Assurances that this problem has been resolved need to be given by the responsible agencies.

CONCERN 13: Since much of the current eradication strategy depends upon the accurate identification of fly finds (sterile versus wild, female versus male, mated pregnant versus fertile immature), measures should be taken to ensure adequate and accurate trap monitoring and fly identification by highly trained entomologists in a timely manner.

One of the recommendations of the International Science Advisory Panel was to rely more on larval surveys to detect new infestations. This recommendation should be immediately implemented to determine whether or not an infestation exists in Corona/Norco.

BIOLOGICAL CONTROLS/ INTEGRATED PEST MANAGEMENT ALTERNATIVES

CONCERN 14: Part of USDA/APHIS' Congressional mandate is to seek and employ the least hazardous available methods when conducting pest management programs.

A combined/integrated approach using predator nematodes and wasps in conjunction with the release of sterile flies will not only eliminate the need to use hazardous neurotoxic pesticides in sensitive urban areas, but increase the effectiveness of sterile flies, as has been documented in published research. While the flies only act against a single species, the nematodes and wasps are effective against a variety of fruit flies.

QUARANTINES

CONCERN 15: Quarantine treatment compliance requirements determined by USDA/APHIS for exports of fruits and vegetables to and from foreign and domestic markets is claimed to be a trade barrier to some markets for growers and is perceived to give an unfair advantage to some foreign competitors and other states. Yet, USDA is allowing the importation of produce from foreign countries which are infested with Medfly because quarantine treatments are available, and because the imports will allow American consumers a choice of a variety of fruits and vegetables in the off-season. (See 58 FR 43493, August 17, 1993, effective August 9, 1993) USDA/APHIS must not arbitrarily determine the conditions of quarantine compliance requirements for the purpose of coercing growers to endorse chemical strategies, which have failed in the past, instead of less hazardous alternatives.

CONCERN 16: Currently, no door-to-door notices are required to inform residents who reside within the quarantine area boundaries of the measures they need to take to cooperate and/or comply with quarantine efforts. Only residents within spray area boundaries are given such information. The number of fly finds constantly being made

just outside treatment boundaries warrants such notices be distributed to all residents inside quarantine boundaries.

FEASIBILITY OF ERADICATION

CONCERN 17: There is no definition of the term "feasible" in the *FEIS*. Thus, no visible criteria is available for determining whether the program can realistically achieve its objective.

SITE-SPECIFIC ANALYSES

CONCERN 18: Although local conditions vary considerably, local governments and citizens are not included in discussions about site-specific conditions that determine eradication strategies. Without such input from the potentially-exposed community, site-specific analyses may fail to consider the full range of potential program impacts when combined with pre-existing conditions or other pest management programs occurring simultaneously in the targeted area.

ESTABLISHMENT

CONCERN 19: Several articles recently published in peer-reviewed scientific journals lend credence to the theory that Medfly may be established in California and several scientists are now in agreement with data developed by Dr. James Carey, Department of Entomology, University of California-Davis. The Caribbean fruit fly, a close relative of the Mediterranean fruit fly, has been acknowledged by USDA/APHIS to be established in parts of Florida. Yet, Florida's citrus industry continues to thrive.

The question of the origin of fruit fly invasions into California was supposed to have been answered by genetic analyses of wild California flies. These types of analyses have been requested by scientists since the initial wide-spread outbreaks in the Santa Clara County and Los Angeles regions in 1981 triggered the first massive aerial spraying campaign in which targeted areas were aerially sprayed as many as 32 times at a cost of one hundred million dollars. While the continuing outbreaks detected in these same areas during the last 14 years speaks to the failure of past chemically-based, politically-driven programs to achieve eradication, scientific questions remain largely ignored and unanswered.

Clearly, a more economically feasible, less hazardous, and more efficacious integrated control strategy MUST be developed based on sound science if the needs of the agricultural community and the urban dwellers are going to be met by USDA/APHIS and the participating agencies in future efforts against fruit flies. Well researched alternatives are available right now and should be immediately implemented to replace failed chemical methods.

Western Growers Association

Serving the California and Arizona Fresh Produce Industry



Statement of Bill Ramsey, Chairman

Western Growers Association

House Committee on Agriculture

Subcommittee on Department Operations and Nutrition

May 5, 1994

Mr. Chairman and distinguished members of the Committee, I greatly appreciate this opportunity to present the views of the Western Growers Association on the State of California's policies on malathion and Medfly eradication. Western Growers represents 2,400 members who grow, pack, and ship fresh fruits, vegetables, and nuts in Arizona and California. Our members ship approximately one-half of the fresh fruits and vegetables grown in the United States. As such, any decision the state makes regarding Medfly eradication or malathion has a direct impact on our members.

1

Controversy

The recent decision to aeriually apply malathion bait over the California cities of Corona and Norco has unleashed a torrent of controversy. Unfortunately, the situation has pitted the agricultural community against some of its urban neighbors. However, this is not an agriculture versus urban fight, nor is it just an agriculture issue. Left untreated, the Medfly infestation would devastate not only the Riverside and Corona areas' \$80 million crop output, but, ultimately, the entire state's \$8 billion fruit and vegetable industry. This economic loss would be a deadly blow to a state economy still struggling to get out of its worst economic slump since the depression.

From our perspective, the controversy seems to focus on the aerial application of malathion bait. In our opinion, this focus is misplaced. As I will explain, the issue is simple: If California does not eradicate the Medfly by all means available, everyone in California, and potentially in other states, will suffer tremendously.

The Medfly

The Mediterranean fruit fly (Medfly) is a particularly insidious pest. Once the female Medfly has lain eggs under the skin of a fresh fruit or vegetable, it is unsalvageable. The eggs hatch into larvae (maggots), which then feed on the fruit pulp and turn the fruit into a rotten mass. Generally, the fruit spoils and

drops to the ground. The larvae leave the fruit to enter the soil where they change into pupae to emerge one week later as adult flies.

The Medfly can infest over one hundred varieties of fruits and vegetables including oranges, peaches, grapefruit, avocados, tomatoes, grapes, melons, cherries, almonds, and pears. As such, not only does the Medfly threaten a broad spectrum of California produce, but, ultimately, it poses a threat to the agricultural production of other states. While winter would limit an infestation in the North to about one growing season, the crops and climate of Southern states would be capable of supporting a continued established population of the Medfly should it be allowed to spread outside of its current borders. Thus, the threat of Medfly infestation is a local, state, and national issue.

Economic Impact

Failure to address the Medfly problem would be economically devastating to California and California agriculture. As I have stated, in the Corona area, Medfly infestation would virtually eliminate the area's \$80 million crop output. Moreover, failure to eradicate the Medfly would cause Southeast Asia, which imports well over one-third of the state's produce exports, to ban the importation of most of California's agricultural products. The Southeast Asia embargo could easily be followed by other trading partners, as well as by other states that are extremely fearful

of Medfly infestation.

In a report on the economic impact of an embargo on California produce by Southeast Asia, Dr. Jerome B. Siebert of the University of California at Berkeley estimated the total short term loss to the California agricultural economy would range from a low of \$1.057 billion to a high of \$1.44 billion.

Dr. Siebert's report also indicated that the loss in net revenue to the growers, packers, and shippers would have an additional impact on the California economy. According to his report, output would be reduced by over \$990 million; personal income to the California economy would decrease by \$1.165 billion; and the gross state product would also drop by over \$1.2 billion. Should this worst case scenario come to pass, California would face the elimination of over 14,000 jobs--in the short run alone. The long term effects of a worldwide embargo of California produce would be even more severe.

It is important to note that the report did not include the impact of an embargo of shipments of fresh produce by other states in the U.S. As Dr. Siebert notes, if such an event were to take place, the economic impact would be much higher than the above figures.

There are already approximately 2,400 acres of land in the Corona area under a six to eight-month quarantine. This means that no fruits and vegetables can be shipped out of this area in order to

prevent the spread of the fly by shipments of possibly tainted fruits and vegetables. Left untreated, the Medfly would spread to other states and counties, and the ultimate economic impact would be too large to calculate.

Each of the factors I have cited influenced the state's decision to combat the Medfly using aerial application of malathion bait. However, the concerns of the local urban community must also be addressed. True, many residents are concerned about these aerial applications. But we should not allow emotions to hide the facts.

The fact is that malathion is in widespread use across California and other states to combat dangerous insect pests. As commentators have pointed out, the State of Florida conducts aerial applications of malathion mist every day for up to three weeks in residential neighborhoods.

Moreover, nearly every report on malathion and every credible scientist or physician has indicated that it is an extremely safe material. In fact, malathion is the most widely used pesticide for home gardening and is milder than other home gardening pesticides on the market. In addition, malathion is used in some areas of the world to control head lice.

The use of malathion bait as a preventive measure against using more or stronger pesticides at a later point is an important consideration. One must remember a similar controversy over

aerial application of malathion bait which occurred California during 1980-1981. In this instance, the Medfly was allowed to spread from the Santa Clara Valley to other regions of the state of California. Although aerial applications of malathion bait were recommended as early as December of 1980, they were not implemented until July 1981, when the U.S. Secretary of Agriculture threatened the entire state with a quarantine. The delay was caused by state officials' reluctance to use aerial applications in the face of resistance from residents of the affected, urban areas. Ultimately, however, the state was forced to resort to aerial applications of malathion bait, and because of the delay in doing so, the area that had to be treated increased from the originally infested area of 30-40 square miles to approximately 1,300 square miles. Thus, when one compares the risks posed by aerial applications of malathion bait with those posed by not using this method--and these include the potential for increased spraying at a later point, the argument weighs heavily in favor of prompt aerial applications of malathion bait.

Western Growers believes the state made the right decision in choosing to aeriually apply malathion bait. However, we also recognize the importance of addressing the concerns of the residents affected by the aerial applications. We strongly urge state and local governments to continue to cooperate in educating the public as to the importance of eradicating the Medfly and to emphasize that this is not a program which only benefits agriculture. Thousands of jobs outside of agricultural production are at stake.

The threat of a Medfly infestation is not just a local problem. It is an issue with ramifications on the state, national, and, ultimately, international levels. It is precisely because of the problem's wide-reaching scope that there must be cooperation among the various levels of government instead of combat. We must all cooperate if California is to retain its vibrant agricultural sector and the many jobs dependent on it.



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Testimony of

CALIFORNIA CITRUS MUTUAL

The Status of Medfly Eradication

Subcommittee on Department Operations and Nutrition

House of Representatives Committee on Agriculture

Presented by

Joel Nelsen, President

California Citrus Mutual

April 27, 1994

Good afternoon, my name is Joel Nelsen and I'm President of California Citrus Mutual, a citrus producer's trade association with a membership of 850 growers farming in excess of 85,000 acres. The majority of this acreage is located in the San Joaquin Valley and consists primarily of Navel and Valencia oranges.

I am also Chairman of the Alliance for Food and Fiber, agriculture's public outreach arm on issues such as Medfly, Nutrition, and Food Safety. The Alliance engages only in consumer education and is voluntarily funded by a cross section of California agriculture.

Industry Profile

The California citrus industry is located in seven counties throughout the State. Approximately 200 packing houses facilitate the process of harvesting and distributing to consumers nutritious and inexpensive oranges and lemons. The total tonnage supplying these entities originates from approximately 300,000 acres.

In 1993, our industry produced 90 million cartons of Navel oranges, 42 million cartons of lemons and 50 million cartons of Valencia oranges. Farm gate value of that product exceeded \$1.5 billion.

We employ almost 20,000 people to pick and pack that product. CCM estimates that half of the revenue is distributed to our employees in the form of wages. Over half of the balance represents cultural costs ranging from water and power to inputs such as equipment and crop production tools. Hopefully, 20 percent of the revenue stays with the grower.

This breakdown is significant because a medfly infestation hampers both production and marketability. The adverse impacts would be felt not only by producers and their employees, but by local businesses ranging from suppliers to restaurants and supermarkets. The magnitude of this impact is visible in a review of the economic disaster that occurred to our industry and communities after the 1990 freeze.

Members of this committee helped authorize disaster funds, food deliveries and unemployment extension benefits as the San Joaquin Valley, and specifically, my industry, fought to recover from that freeze. The magnitude of a medfly infestation could be twice that natural disaster!

It's important to realize that a medfly infestation, therefore, affects more than a few thousand citrus growers. It will devastate California's economy especially when one takes into consideration impacts from all the other affected farm commodities!

Cultural Impact

One medfly find indicates another 500 are in the vicinity according to entomologists. These flies represent thousands of eggs. Larvae are found and the fruit is destroyed. Larvae are not found and the small maggots feast upon the flesh of the host commodity. In either case, production is lost and consumer availability is reduced.

To help minimize this destruction, chemical sprays will be utilized. Growers would be required to use more chemicals to protect their yields. More chemical usage will lead to greater

negative impact on beneficial insects.

The California citrus industry has long been at the forefront of integrated pest management or IPM cultural practices. All that would be lost as a result of medfly infestation.

We cannot produce the bountiful array of fresh product with a medfly infestation and not use crop protection tools! Our transition to beneficials and IPM would be stalled.

Economic Impact Analysis for California Citrus

In 1993, our industry exported 9 percent of our Navel oranges or 7.8 million cartons of fruit. For Valencias, the percentage was 26 percent representing 12.5 million cartons. For lemons, 12 percent of the crop is exported or 6 million cartons. The value of those exports is approximately \$260 million. The overwhelming majority of that tonnage, 91 percent, was distributed to Asian markets.

A medfly infestation would trigger a quarantine and a loss of these markets. Alternative markets such as the European theater are not viable for competitive reasons.

An infestation could also trigger quarantine demands from domestic markets, as well. States such as Arizona, Texas, Missouri, Florida, Georgia, Idaho and Colorado could request a quarantine. An educated guess is that these states account for another 25 percent of our revenue or \$102.5 million for Navel oranges, \$45.5 million for Valencias and \$60.6 million for lemons.

Again, the aggregate economic impact is not borne solely by growers. Of the half billion dollars discussed, approximately one

half or \$250 million represents wages paid for pick, pack and haul.

Obviously, not all that fruit is going to be lost or abandoned. But, we must realize that more fruit will be sold in fewer markets and this oversupplied situation will lead to lower prices for the remaining product! We must also realize that the industry will not continually ship to lose money, so a percentage of fruit will be allocated to noncommercial markets. The consumer price will have to go up to insure that citrus farming remains an economically viable industry.

CCM has calculated the impact on jobs at various percentages of eliminations. What the magic number will be is unknown at this time. However, some fruit will not be marketable and some jobs will be lost.

If two thirds of the fruit destined for the export and domestic markets listed above were to be abandoned, CCM has calculated the job loss to be at least 4000 positions.

If the abandonment is at 50 percent, the job loss would be approximately 3000 positions.

At a 25 percent figure, 1500-2000 jobs would be eliminated.

The impact would be felt in other areas, as well. One hundred percent of our fruit is exported from Southern California. Each 1000 cartons abandoned, represents a loss of one truck not being utilized.

A truck driving from Riverside to Long Beach uses 15 gallons of fuel at a tax rate of 45 cents per gallon. To Port Hueneme, the figure is 30 gallons at \$13.50 in taxes per trip. In 1993, our export tonnage was 26 million cartons or 26,000 truck loads. That

represents lost tax revenue of at least \$175,000, and, more likely, twice that figure since the majority of our industry now utilizes the Port Hueneme facility.

The transportation industry could lose \$26 million. How many truckers would lose their rigs? How many dock workers would be terminated?

Introduction Prevention

The eradication program presently underway could have been avoided. The controversy and the expense need not have happened! Prevention is viable if all elements of government do their job!

We need to increase the number of personnel on California's borders for exclusion activities.

We need to determine whether a sterile fly program works. If so, we need to increase the supply of quality flies.

We need to increase our inspections, i.e. beagle brigade for first class mail as it pertains to the import of illegal product.

We need to increase fines and penalties for transporting fruit or produce out of quarantine zones.

We need to increase fines and penalties for persons knowingly violating our laws by introducing contraband product.

We need to enhance the public awareness programs.

Public Education

While there is a definite need for government to dispense appropriate educational material at ports of call, there is also a responsibility with industry. Agriculture recognizes the need to inform a targeted audience regarding the eradication effort.

Fruit stripping, ground and aerial spray programs and quarantines are all intrusive. That is why, we have taken upon ourselves to reach out to the general public and explain why these activities are necessary.

Whether it be local government or the general population we have reached out with information in the form of binders, ads, and video tools. We are disseminated tarps and we have provided fruits and vegetables to those less fortunate requiring group shelters.

We have made ourselves available at service clubs, Council meetings and private sessions. The industry is accepting the obligation to address legitimate concerns.

Eradication Methods

The controversy surrounding eradication is focused on method, I believe, not the need. One thing must be understood regarding a sterile fly program. Steriles released in a production area will "sting" the fruit. They will cause damage and reduce the quantity of fruit available for the marketplace.

Within a production area, therefore, the use of sterile medflies as a cure is as bad as the disease, when one calculates the impact on jobs.

Summary

Agriculture, and specifically the citrus industry, does not create this problem, but we are saddled with the misconception that we're the only ones that benefit from a medfly eradication program. I believe I've provided testimony that clearly substantiates the

position that farmers, job holders, allied industries and the state's economy would suffer should the fly become endemic or should we switch from an eradication mode to control mentality.

There is no option in our view. Eradication is a must! We know the aerial applications of malathion work. We believe a sterile fly program could work. The scientific community must decide the best way to accomplish the objective.

But, there cannot be any deviation from the objective. Eradication of the Mediterrean Fruit Fly must take place!

file: Medfly

Testimony of
Ted Batkin
Medfly Project Manager
California Agricultural Issues Forum

Good afternoon, my name is Ted Batkin and I am the manager of the California Citrus Research Board. Today, however, I am here as the project manager of the California Agricultural Issues Forum, a coalition of over 10 commodity organizations that have come together to deal with various issues impacting our industry. These groups include Citrus, Table Grapes, Strawberries, Kiwis, Avocados, and other fruits and vegetables. The AIF is currently providing \$500,000 in funding for the industry's Medfly Education and Outreach program.

The Medfly Education and Outreach program is directed at informing various segments of the public including elected officials and community leaders on the severity of the Medfly crisis and the impact on local, state, and national economies. A more detailed copy of the program is included in my written material. The highlights of the program include:

1. Research on consumer attitudes and understanding of the problem
2. Materials for use in local programs such as video and slide presentations, handout material and informational briefing books.
3. Organization and support of local work groups to work within their communities with city officials and community leaders.
4. Media informational briefings and materials.

There are additional elements to the program included, however, the program is not sufficient to completely address the scope of the entire issue. I will address that problem as we move forward. First, however, I would like to outline the current situation as we know it today.

Current Situation

The amount of wild Medflies trapped in the Los Angeles Basin increased from approximately 50 in 1991 to 200 in 1992, to 400 in 1993. There was clear evidence that the populations were continuing to grow. This caused the USDA and CDFA officials to change the course of action for the 1994 season. The new plan specified the use of Sterile Insect Technique (SIT) in an area-wide protocol for a 1,400 square mile area. Calculations of the amount of flies necessary to achieve the program indicated that there would not be any flies available to use the SIT protocol in other areas of the state.

What may or may not have been said over this issue is of little or no consequence now unless your only agenda is to criticize government officials and we all know how easy that is to do over anything. What is important in this whole scenario is the need to look forward to the 1994 season and determine how we, as the leaders of industry organizations and governmental agencies charged with the responsibility of action, will protect the public interest and the economic well being of our country.

Need for Eradication

What is important to remember, as we are wading through the swamp of alligators, is to keep the main objectives in complete focus. They are: 1. complete eradication of the Medfly, and 2. pest exclusion programs to ensure that new introductions are not allowed into the country, especially areas such as Southern California that are particularly good host areas for the pest.

The need for eradication is very clear. We cannot allow the Medfly to become established in California or any other area for the following reasons:

1. The pest will cause considerable damage to the food production chain in the state. This is not mere idle hearsay. It has been proven in areas where the pest has been allowed to become established such as Hawaii and The Middle East.
2. Damage to our very fragile eco system by methods of control that will allow production of food to continue. Biological control practices will cease to exist in control zone areas.
3. Control zone methods will place increased pressure on the scientific community to provide alternative methods. We are currently in danger of the legislative curve exceeding the scientific curve in pesticide regulations.
4. Economic chaos will occur within the agricultural community as they restructure and relocate to develop pest free control zones.

Need for Exclusion

The need for exclusion is obvious. Once the pest is eradicated, it does not make any sense to allow the pest back into the country again. The pest exclusion portion of the formula is by far the most important and perhaps the most difficult to solve. There are many avenues that the pest can come into the country. The most common is through the movement of illegal fruit coming in from areas of the world where the pest is established. Additional pests may come in through the shipment of fruit through package services and first class mail. Mail is one of the more common methods because the shipper knows that the laws and regulation prohibit postal inspectors from confiscating the mail and taking their fruit.

Call to Action

All the rhetoric in the world will not solve either the eradication situation or the pest exclusion problem. The solution will require increased commitment from all parties involved to create action steps, not empty promises. The only way this will be solved is

through committed, concentrated effort to focus on each segment of the formula and take decisive and specific action.

In Corona, after many weeks of emotionalism, political posturing, and media hype, opponents to the spaying came together with the agricultural industry to seek solutions to the problem. This led to a complete refocusing of energies at all levels and started the development of a bond between the citizen groups, agricultural leaders and city officials that has produced several noteworthy actions. The most notable is the following resolution unanimously passed by the Corona City Council on Wednesday, April 6, 1994. This action was made possible by the realization by all parties concerned that the time had come to move forward on the issue and seek long term solutions to the problem. Where we did not all agree on every part of the current agenda, we did agree that there was common ground that should be pursued. The resolution reads as follows:

Resolution

Whereas, on December 17th, a mated female Mediterranean Fruit Fly was found within the City Limits of Corona, and

Whereas, the City of Corona has been subjected to the eradication program for the Mediterranean Fruit Fly which includes aerial application of Malathion Bait, and

Whereas, this procedure has caused the citizens of the City of Corona to become concerned over the use of aerial application of Malathion Bait, and

Whereas, the City of Corona recognized the need for eradication and pest exclusion of exotic pests, with specific emphasis on the Mediterranean Fruit Fly

Therefore, be it resolved that the City of Corona wishes to show its support of the following steps:

1. The continuation and improvement of research programs into alternative methods of eradication of exotic pests including but not limited to the establishment of a dedicated research center for exotic pests at the University of California at Riverside currently under consideration by the Chancellor.
2. The continuation and improvement of research on a local, state, national, and international level, to find alternatives to the use of aerial application of Malathion bait as a tool for eradication. Such work will include tools for use in areas where the use of the sterile fly technique is not practical or possible.
3. Strengthening and broadening of the procedures to prevent new introductions of exotic pests from other countries.
4. Promote a review of policy, procedural, and regulatory deficiencies that have

helped to create the aerial spray crisis in Corona-Norco.

5. Promote a review of the policies, procedures and practices followed by state and federal governmental agencies to implement emergency action in the event of a defined infestation of exotic pests.

This coming together of groups shows clearly that energy can be focused on solutions when all the parties agree to rationally discuss the issue.

Conclusion

We must now move forward and build on this momentum that has been created to find solutions to the Medfly crisis. Action points are:

- A. Better research
 - 1. Trapping Methods
 - 2. Alternatives to aerial application of malathion bait
 - 3. Understanding the pest and how it survives over the winter
 - 4. DNA fingerprinting to determine origins of infestations
- B. More sterile fly production and research facilities.
- C. Improved and expanded pest exclusion programs.

To achieve these steps, specific actions need to take place.

- 1. The formation of the proposed exotic pest research facility at the University of California Riverside is one positive step to bring the research agenda under a coordinated roof and help prevent duplication of effort and wasting of precious resources.
- 2. Improvement and expansion of sterile fly facilities in a geographical area that will allow the introduction of new species of flies to the program.
- 3. Legislative changes that will allow the user fees collected by USDA to be automatically allocated to the pest exclusion program rather than be sent to the general fund and then requested back by program officials.

These are just a few of many action steps that will ensure improvement in the crisis. There are many more steps that need to be explored. The first step is being taken here today, and that is an increased awareness of the scope of the problem. This hearing is not the end of that need, it is only the beginning. Where we go from here is now up to everyone in this room to take decisive and coordinated action.

Thank you for your time and attention.



Riverside County Farm Bureau

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Mediterranean Fruit Fly

Public Hearing
Subcommittee on Department Operations and Nutrition
Committee on Agriculture
U.S. House of Representatives
2 p.m., April 27, 1994

Presentation by

Robert Eli (Bob) Perkins

Executive Manager

Riverside County Farm Bureau, Inc.

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Introduction

Good afternoon, Mr. Chairman, members of the committee, and guests. I'm Bob Perkins, executive manager of Riverside County Farm Bureau, a private, nonprofit association of farmers and ranchers throughout Riverside County, established in 1917 and affiliated with the California Farm Bureau Federation and the American Farm Bureau Federation.

I've been Farm Bureau manager for 15 years, and I count as friends many farm families in my county and across the state. I'm proud to represent the farmers in Riverside County.

The president of my Farm Bureau is John Gless, a citrus grower in Riverside who farms about 4,000 acres of citrus in multiple locations, including sites inside the Corona quarantine area. John's operation, Gless Ranch, is characteristic of the multi-generational farming in Riverside County. John took over the farm from his father. Now John's children run much of the day-to-day operations, including a roadside fruit stand, and John and his wife, Janet, look forward to the day when their grandchildren will join them in the business. John, like Farm Bureau volunteers everywhere, wants to see farming prosper and continue. He is deeply worried about what Medfly can mean for the future of agriculture and his family. Volunteering his time to lead our county Farm Bureau, he is working to help solve the Medfly problem.

John has said the Medfly debate "is not an issue of public safety versus economic considerations. It is about economic and social consequences on a national scale. The real issue at hand should be how we can strengthen and change the Medfly program to insure success, for the benefit of all citizens."

Because the Medfly continues to be a problem, farmers believe we aren't doing enough

to stop it.

This problem is not just California's problem. If we can't stop Medfly at our international border, there is no reason to expect that we can stop it at any state border where climate and availability of host commodities will support it. California's Medfly eradication effort is the front line in a war we can't afford to lose.

Medfly poses a major threat

To understand the Medfly issue, you have to understand exactly what the Medfly is and what it does.

Medfly is different from most agricultural pests, because it not only damages many fruits, nuts and vegetables, it also damages markets.

Trade could be interrupted

International trading partners in Medfly-free areas of the world don't want Medfly. Farmers agree, we don't want it either. For any international consumer of fruits, nuts and vegetables, the way to prevent bringing in Medfly is to set up rigid rules about where fruits, nuts and vegetables come from and how they are handled. Our trading partners are working with us to maintain sound, scientific procedures to stop the spread of Medfly.

Our international markets have been hard won over many years, to the benefit of U.S. citizens, our economy and our balance of trade. If we can't assure those foreign customers that our products are free of Medfly, they are justified in refusing to do business with us. It wouldn't matter if our farmers could learn to farm in spite of Medfly; they wouldn't have those overseas markets to sell to.

Farmers outside of California don't want Medfly either. If Medfly is not eradicated in California, we could expect a quarantine of California products by other parts of the U.S.

Medfly is prolific and destructive

Medfly is an unwelcome intruder because it's so prolific and destructive, and because it travels along with the commodities it infests.

Medfly attacks nearly 250 different fruits, nuts and vegetables, such as oranges, lemons, grapefruit, tangerines, guavas, kiwi, plums, peaches, nectarines, pears, apples, apricots, avocados, cherries, grapes, prunes, tomatoes, bell peppers and cucumbers.

Medfly does its damage by piercing the hosts' skin and laying eggs underneath. Medfly maggots feed off the host fruit until the fruit drops to the ground. They then emerge from the fruit, burrow in the soil and form into Medflies. Many times, damage to fruit is not immediately evident because the maggots are under the skin. It can take less than five days for the entire fruit to be destroyed.

In warm weather Medfly maggots can hatch and pupate into adults in a matter of days, but cool weather can extend the cycle for many weeks. The entire Medfly life cycle can take from four weeks in summer to up to three months in winter. In winter months, Medflies may be developing underground, waiting for warm weather before they emerge.

Fruits, nuts and vegetables containing eggs or maggots can carry Medfly to other locations. When people find maggots or rotted fruit, they throw it out, allowing the Medflies to grow into adults. Movement by way of infested host commodities is precisely how Medfly keeps returning to California, and why international trading partners don't want to risk

bringing in infested products.

The female Medfly mates only once, and after that she can lay up to 1,200 eggs in her lifetime of about 30 days. (This makes it possible to use sterile Medflies to interfere with the spread of Medfly. If a female Medfly mates with a sterile male, she will never produce any eggs.)

It is generally accepted that finding a single wild Medfly in a trap is an indicator that there are 500 to 1,000 other Medflies in the area. That's why finding a mated female Medfly in a trap, as happened in Corona, triggers an emergency eradication effort.

Under optimum conditions, a Medfly population can double in size in as little as four days if no control action is taken.

Medfly poses a major threat. Farm Bureau has told local government officials the risk is not just losses to farmers in Corona. We risk fruit and vegetable production across the U.S.

Medfly would cause environmental impact

Although not established in the continental U.S., the Medfly has permanently infested regions such as Hawaii, Central America, Europe and the Middle East. The Medfly's presence in these areas has forced agriculture to either abandon the production of many host commodities or greatly increase the use of pesticides to produce fruits and vegetables free of maggots.

If Medfly should become established, it would cause a huge increase in pesticide use.

Farmers in Southern California have embraced reduced pesticide farming methods, because they work, they lower costs, and they are acceptable in an increasingly populated region. Farmers rely more and more on integrated pest management programs, using beneficial insects, snails or other organisms to control pests. These farmers use pesticides sparingly and carefully so they don't kill beneficials and upset the balance between predator and pest.

A prolific and destructive pest like Medfly would turn the clock back decades, back to before integrated pest management. Farmers would have no choice but to apply pesticides more often and in larger quantities to control Medfly. Pesticides would wipe out the beneficials along with the Medflies.

Organic growers would be defenseless against Medfly.

Backyard gardeners would also apply larger amounts of pesticides in a never-ending quest to grow fruits and vegetables without maggots. It is estimated that an additional 2.1 million pounds of pesticides would be introduced into our environment each year just for homeowner control of the Medfly.

Economic impact could be severe

Medfly threatens California's economy because of the importance of agriculture in the state. Agriculture is California's leading industry. One third of California land is devoted to agriculture, and more than 50 percent of the U.S. food supply is produced in California.

In recent years, Riverside County has ranked around the middle of the top ten farm counties in California, with the county's gross farm production value hovering around \$1 billion. Of that, more than one-third or about \$395 million is from crops that are Medfly hosts. Eight of the 15 top commodities in Riverside County are Medfly hosts. While establishment of Medfly could seriously erode that \$395 million, it would almost certainly wipe out farmers' profits and their incentive to continue farming.

What the Medfly doesn't destroy, economic principles would finish.

Those crop values are gross returns and not profit. Leading agricultural economists agree that every dollar received by farmers has the financial impact of three times that amount. Therefore, Riverside County's \$1 billion in farm returns becomes approximately \$3 billion revenue generated into the total economy. Similarly, the \$395 million in Medfly susceptible crops represents over \$1 billion to the county's economy.

In looking at these figures, we can't predict how losses in Medfly host crops might affect non-host commodities. Farmers might face more competition and lower profits in the remaining, non-host commodities as Medfly-impacted farmers turn to other crops.

The potential costs if Medfly should become established in California include lost markets and added costs for pesticides and for compliance with quarantine procedures that would be imposed.

Failure to stop the Medfly in California would be a crippling blow to the state's fresh fruit and vegetable producers, perhaps fatal to Southern California's historic citrus industry which is already struggling under high water costs. The resulting damage to California's recession-plagued economy would be severe.

The impact of Medfly-caused losses would be felt far beyond the farm. It would be felt by farm and packing house workers, equipment suppliers, pipe salesmen, truck drivers, railroaders, dock workers, advertisers, ultimately by whole communities that may not now realize how closely their lives and businesses are linked to the farms. It would even be felt through reductions in agricultural demand for water, electricity and gas, leaving urban utility users pay for facilities and improvements alone.

Medfly could threaten food supply

With the diverse production of fruits, nuts and vegetables in California and in other temperate regions of the U.S., Americans rely on a plentiful supply of food. Medfly could reduce much of that production, erasing that comfortable margin of extra food that insulates us against international emergencies. Such questions may not appear significant at a time when the U.S. faces no major threat, but just as our food supply was a concern in World War I and II, it will be again, almost certainly if we can't maintain our farm production capacity.

Also, if Medfly causes reductions in fruit, nut and vegetable production, consumers will suffer from the lack of affordable supplies of these healthful foods.

Solving the Medfly problem

There are five elements to meeting the Medfly challenge: eradication, exclusion, sterile Medfly production, research and outreach.

Eradication is essential

Medfly eradication is absolutely essential. Medfly is an intolerable pest. We simply cannot live with it, and there is no alternative to eradication.

There are many reasons why we can't live with Medfly, as I've described earlier in comments about the Medfly threat to our nation's economy, environment and food supply.

Eradication necessarily includes the ability to detect Medfly infestations at a threshold low enough to prevent its spread. We might ask if the current trapping procedures are

sufficient to detect and monitor infestations or whether trapping needs to be increased.

There has been considerable debate about whether the Medfly finds in the Los Angeles basin indicate that Medfly populations are overwintering there. Farmers see the rising number of Medfly finds over the past four years as a sign that -- whether or not these finds result from new introductions or from overwintering populations -- we are not putting adequate resources into the Medfly battle.

Cost may be a factor in how detection and eradication are managed. However, if we all agree that Medfly is an intolerable pest, then we must also agree to invest the people and resources needed to eradicate it. The job can and must be done.

While all of us can look to the other four elements of a Medfly solution, which are pest exclusion, sterile Medfly production, research and outreach, we must never lose sight of the immediate goal of eradication.

Controversy centers on Malathion

At this time, effective eradication of Medfly involves aerial application of Malathion. The controversy that has led to this public hearing today resulted from the use of Malathion. That controversy has been nurtured by confusion, misinformation, political opportunism and media focus.

President John Gless said Farm Bureau is worried that media coverage of the current Medfly eradication effort has focused on the Malathion controversy while almost ignoring the very real human, environmental and economic consequences.

Farm Bureau also told local government officials, "By downplaying scientific information supporting the safety of Malathion and focusing instead on any uncertainties which science acknowledges, you unnecessarily raise the level of public fear."

Government and industry must work together to provide full and accurate information, to each other and to the public.

The eradication program in Corona got off to a shaky start when local officials heard incomplete and contradictory information.

For example, they were told sterile Medfly releases would have been used in Corona instead of aerial spraying if enough sterile flies had been available. In fact, the scientific advisory panels recommending eradication procedures had spelled out the use of aerial spraying for the type of situation that occurred in Corona, where a mated female Medfly was found outside of the Los Angeles basin sterile fly boundary.

In another example, California Secretary of Agriculture Henry Voss told county officials that aerial spraying was necessary for eradication, as recommended by the scientific advisory panels. Then, Secretary of Health and Welfare Sandra Smoley told the same officials she believed ground spraying would be preferred. Secretary Smoley might properly address health questions about Malathion, but she was clearly not prepared to rewrite the procedures recommended by two scientific advisory panels for eradication of an exotic insect pest like Medfly, and her comments left local officials to wonder whether the state had fully considered its emergency plan.

Citizens and farmers saw government agencies that didn't appear to be communicating with each other. The resulting confusion was amplified in newspaper headlines, giving the public reason to doubt official statements.

The underlying facts, about Malathion and about eradication procedures, did not change. They just were not clearly stated.

Federal and state officials participating in today's public hearing can best address the issue of Malathion. However, I can talk about Malathion from a personal perspective.

When Malathion bait was first applied in Corona this year, I stood in an open field alongside Secretary Voss and Bob Krauter of the California Farm Bureau Federation's Information Services Division. The spray was imperceptible, although it was visible on dye cards used to measure it and on car windshields.

Also, I lived in the aerial treatment area in Riverside when a successful eradication program was conducted there in 1990. Other than washing the bait off my car, I experienced no inconvenience and saw no effects on pets and livestock.

Malathion still used in urban areas

I can also personally confirm what we've heard, that Malathion is still routinely used in urban areas of the U.S.

When I recently visited my hometown, Shreveport, Louisiana, friends confirmed that Malathion is still regularly fogged throughout residential areas during the summer to control mosquitoes, as it has been for more than 40 years.

Jim Pratt, director of the city's mosquito control program, confirmed that pesticide sprays are applied every one to two weeks.

Pratt said his department uses both Malathion and synthetic pyrethroid insecticides in the spray program. Pyrethroids kill more than 90 percent of adult mosquitoes while Malathion's effectiveness is in the 80s. The dose of pyrethroids, at .00175 pounds per acre, is lower than that of Malathion.

In Caddo Parish only ground spray is used, from trucks with cold aerosol low volume applicators driving along residential streets, but Pratt said almost all mosquito abatement districts along the Gulf Coast use airplanes.

The Malathion, in an amount just barely enough to kill adult mosquitoes, is almost the same dose as applied here for Medfly. In Shreveport, the spray is .07 pounds--or 1.12 ounces--of Malathion per acre, compared to 1.2 ounces per acre used for Medfly. Spray droplets are 18 microns in size, barely perceptible to humans. In the mosquito program, the aerosol spray is a straight Malathion formula, compared to the 90 percent corn syrup solution used for Medfly. The aerosol can be inhaled, where Medfly bait spray is not inhaled.

People in Louisiana "decide whether they want the pesticide or the mosquitoes," Pratt said.

The treatments, from May through September, only affect adult mosquitoes, so they are repeated at least every two weeks in all areas.

There are a few local residents who like to be notified so they can go indoors, Pratt said. "There are one or two people who say, 'Don't spray our street,' but they're overruled by their neighbors."

Of course, mosquitoes are a health threat as well as a severe nuisance in the rainy South. In Shreveport's history, an 1873 yellow fever outbreak claimed 750 lives from August to November. There were many other fever outbreaks until mosquitoes were found to be the carriers.

The mosquito spray program I remember as a child involved a thick white fog. Pratt said that method, which is no longer used, employed a 90 percent diesel fuel base, heated to create a thermal fog.

Jim Pratt can be reached at 318/226-6627.

Pest exclusion must be effective

Eradication of current Medfly infestations isn't a complete solution, as long as this pest continues to be reintroduced into the U.S. Medfly must be stopped at our borders.

It should be clear from interceptions of infested host commodities in airline baggage, in first class mail, and in smuggled shipments, that large amounts of infested material are coming into the U.S. The increasing number of Medfly finds in Southern California are an understandable result of insufficient border controls.

Farm Bureau has consistently supported effective pest exclusion.

We want an increase in all pest exclusion efforts, particularly inspections at international travel terminals and borders.

We support penalties and incentives consistent with the threat which Medfly poses to our nation and sufficient to stop infested host commodities from coming into the U.S., including full enforcement of existing laws and reevaluation of those laws in order to strengthen them where needed.

We encourage the cooperation of international carriers, governments, organizations and any others who can assist in pest exclusion.

And, we ask for help in stopping introduction of infested host commodities through first class mail.

Last week I found a 1990 letter which we wrote to California Farm Bureau Federation President Bob Vice about pest exclusion. We said that heightened awareness of the pest issue provides an ideal opportunity to promote more effective pest exclusion programs. Unfortunately, over the intervening four years, additional Medfly finds tell us that pest exclusion efforts have not improved. The opportunity is still before us. We must implement effective pest exclusion programs.

Sterile fly production must increase

Farm Bureau also supports increased production capacity for sterile Medflies.

Growing immigrant populations and increasing international trade and travel raise the probability that Medfly may be reintroduced by way of host commodities brought in from Medfly infested areas of the world.

We must have reliable sterile Medfly production capacity to meet peak emergency demands. We understand some of the difficulties in developing production capacity, in building, operating and maintaining facilities and in rearing healthy flies. However, we believe the Medfly emergency warrants a response from the federal and state governments in keeping with the size of the threat.

Farmers understand that sterile Medflies will not entirely replace Malathion treatments. However, we believe the public can accept some aerial applications of Malathion if they understand the basis for deciding to use Malathion, if they know that sterile Medfly releases will be part of the program wherever appropriate, and if they know we are doing everything we can to conduct the least intrusive program possible. The answer that sterile flies aren't available simply isn't acceptable.

We need the funding and the commitment to increase sterile Medfly production immediately.

Research needs support

Farm Bureau supports increased research into Medfly solutions.

Research could point to better procedures for detecting and eradicating infestations. It could develop alternative pest control measures, such as additional biological controls. It could produce better alternatives to Malathion treatments or more effective use of Malathion.

Medfly isn't an easy problem to solve, but until it is solved, we need to put full support into research. We recognize that research proposals must be carefully screened so funds are applied where they are most likely to produce results. Researchers should be encouraged to develop more and better proposals.

We have to be able to demonstrate to the public that we are doing everything we can to find effective alternatives to Malathion treatments.

Farm Bureau urges you to look favorably on all proposals that show promise of furthering the Medfly research effort.

Outreach can help

In my contacts with citizens of Riverside County both in farming and in the non-farm communities, I hear that the public can accept some Malathion treatments if they have full and complete information and if they know government and industry are doing everything we can to stop Medfly from coming back into the U.S., to produce more sterile Medflies as part of the eradication and to increase research to find better solutions.

All of us in public service and in industry must work together to inform the public.

The controversy over the Medfly project comes from urban areas. It is important to remember that Medfly infestations have occurred mainly in urban areas because Medfly is being introduced by urban residents, not by farmers. Farmers regret the inconvenience which urban residents experience in the eradication program, and would prefer to enlist those residents' help in preventing reintroductions of Medfly and in finding solutions to the problem.

Distinct ethnic populations and recent immigrant communities have to be included in outreach programs. Some amounts of Medfly-infested host commodities are entering California in response to the demand in ethnic and immigrant communities, where residents can't get fruits and vegetables they knew in their countries of origin. Such communities may not yet be familiar with American language or culture, and therefore they may not know about the Medfly problem and how it involves them.

For example, highway signs warning of the Medfly quarantine boundaries in Southern California are relatively small and printed in only English and Spanish. Clearly there are communities in the Medfly quarantine area and citizens who pass through those communities that speak and read other languages, who may not be getting the message. If we're serious about solving the Medfly problem, we must do a better job of communicating with all citizens in the affected areas.

Corona FACT

A successful outreach effort has to start with local government officials and community leaders. Toward that end, farmers organized the Corona Fruit Fly Action Coordinating Task Force, or FACT, to meet with local leaders, inform them about Medfly and enlist their support to promote solutions.

Farmers hope to see similar groups formed in other agricultural communities where Medfly might be introduced.

It has been my privilege to serve as host for these meetings, and the response tells us we're on the right track. Once we get beyond the controversy about Malathion, local leaders and industry agree on what needs to be done to stop the Medfly problem.

I'm willing to take information to opponents of the Medfly program. When a speech by Governor Pete Wilson earlier this month in Riverside attracted Malathion protesters, I took the opportunity to talk both to reporters and protesters for over an hour.

I don't think I made the news or changed any protesters' minds, but I did come away with an impression: most of the protesters are misinformed and frightened, but they're just ordinary people who are willing to talk and want to be listened to.

I got some useful suggestions, such as placing copies of the Malathion health studies in the local library. The Alliance for Food and Fiber has already placed its "Medfly Task Force Resource Book" of Medfly information in the library. The Alliance also supplied free plastic sheets to Corona residents to cover their cars on nights when Malathion bait sprayed.

Conclusion

Regardless of what mistakes may have been made up to now, it is essential that all of us who are affected by Medfly work together to solve our problems now, to eradicate Medfly and take all necessary steps to prevent a recurrence.

We must give our full commitment to the steps needed to stop Medfly: eradication, pest exclusion, sterile Medfly production, research and outreach.

On behalf of farmers in Riverside County, I thank you for this opportunity to present my comments.

Attachments:

"How Chilean fruit came to California," Riverside Press-Enterprise, January 30, 1994, an article by Dr. Martin M. Barnes about how Chile narrowly avoided Medfly infestation in 1966.

"Agriculture on the line," Riverside Press-Enterprise, February 20, 1994, an article by Dave Downey about Medfly's potential impact.

(Attachments follow:)

How Chilean fruit came to California



1/30/94

By MARTIN M. BARNES

The first of the Californians had been in town but a short while when our Chilean hosts at the Agricultural Research Center held a reception for us. There were plant pathologists and pomologists from UC Davis, and myself, an entomologist from UCR among the vanguard of scientists from several campuses of the University of Chile, Santiago, and our university.

Among the guests at the reception was Prof. Raul Cornez of the University of Valparaiso, undisputed dean of entomologists in Chile. The evening before the party he had come over from the coast to spend the night in his sister's home in Santiago. The next morning, Raul, one of perhaps three Chilean scientists who would recognize it, found a Mediterranean fruit fly in his sister's kitchen. From its brilliant blue eyes, this creature is known in Chile as *la mosca azul*, the blue fly. We call it the Medfly.

The news of his discovery was a feature of the party that evening along with our introduction to the Chilean *pisco* sour. What was to be done to protect the Chilean orchards and vineyards, and what provision could be made for export of Chilean fruit? It was February of 1966. What happened in the ensuing weeks now provides Californians in winter with nectarines, peaches and grapes from the orchards and vineyards of summer in Chile. None of these fruits would come to

the U.S. if there were Medflies on Chilean farms.

A survey was quickly organized by officials of the government. In the center of the infested area, confined to the southern part of the city, was the home of the Peruvian ambassador. Peru had its share of Medflies and the Chileans had no

Medfly memories

The writer is a professor of entomology emeritus at the University of California, Riverside.

problem speculating that their old rivals had brought in some of their favorite tropical fruit and thrown out the infested ones. The Atacama desert between the two countries blocks the natural movement of the fly.

Specialists with the U.S. Department of Agriculture came at the invitation of their local counterparts. Methods for eradication of Medfly populations had been developed in USDA laboratories in Hawaii. These included use of a corn protein hydrolysate which is attractive to female Medflies. The females must have a proteinaceous diet for significant egg development. Along with the protein, of course, some malathion would be incorporated, a very small amount on an area basis when applied by air.

Both of these ingredients were imported

and costly in dollars. It is difficult for us to comprehend how scarce dollars were in that part of the world at that time. I got in touch with my friend Loren Steiner with the Medfly lab in Honolulu who had developed the eradication procedure. We arranged to have various proteinaceous materials of Chilean sources tested as Medfly attractants.

The suburban home of familiar Spanish architectural style which I had rented for my family was owned by a rather stern Spaniard. In our negotiations, he had insisted that the rent be paid in dollars to a numbered account in New York City. So much for his style of capitalism, rather than invest in Chile, and so much for an indication of the scarcity of dollars. Chilean currency was under heavy pressure from inflation. The house was in the Medfly eradication zone. Every Saturday morning for several weeks a Piper Cub airplane rigged with a sprayer made numerous runs back and forth across the city, effectively delivering a scant spattering of tiny droplets of the bait mixture, as evidenced on the hood of my green Ford Fairlane.

Are the Chilean people less fearful of pesticides than we? They seem more tolerant of insects than our people, but not so tolerant perhaps of those that directly damage their crops. No demonstrations were made against the spray campaign at the usual place for similar efforts, downtown Santiago in front of the president's

palace. No angry letters appeared in El Mercurio, the major daily newspaper. Here in California the experience has been different. It seems that an increasing breeding of science and politics has created a destructive genteel primitivism which improperly discounts realities in farm ecology as well as realities in chemical toxicology. This has created a climate in which it is difficult for members of the public to evaluate risks in a dispassionate manner. Opportunities for political misbehavior exist when safety is involved as an argument of convenience in support of conclusions reached on ideological grounds. Hence the observed reactions.

According to results in Hawaii, two Chilean proteins were just as effective as Medfly attractants as the imported and expensive one. But by the time this information was available, excellent results were being achieved with the original formula and no change was made. The Medfly was eradicated from Chile!

I wonder if the folks at the Ford Foundation are aware that as a result of their program, the Medfly was discovered in Chile in time to be eradicated before it could spread to agricultural sectors. Both Chileans and Californians profit.

Enjoy those Chilean fruits. They have provided a bridge of availability through winter which has cultivated our appetites, enhancing the consumption of California fruits in their season.

Sunday, February 20, 1994 • THE PRESS-ENTERPRISE

Agriculture on the line

*Industry warns of huge money,
job losses if pest not eradicated*

By Dave Downey
The Press-Enterprise

2/20/94

CORONA

While Corona-Norco residents and state officials debate the wisdom and safety of spraying malathion from helicopters over the community, the agricultural industry says one thing is clear — losing the battle to the Medfly would be a lethal blow to California's biggest industry.

If the Mediterranean fruit fly were to become a permanent resident of California it could put more than 14,000 people out of work and result in hundreds of layoffs in Riverside County, agriculture officials say.

The Medfly lays eggs that reduce 250 types of fruit and vegetables to mush. Aerial malathion spraying began Tuesday night in Corona after state officials said they didn't have enough sterile Medflies — their best alternative method of attack — because of control efforts in a quarantine area in Los Angeles, Orange and San Bernardino counties.

Were the Medfly to win the war, agricultural production that now reaches \$18 billion a year for all fruit, vegetable and animal products statewide would decline sharply by \$1.06 billion to \$1.44 billion, said Jerry Siebert, an economist for the University of California, Berkeley, in a study released last week.

Job losses triggered by a boycott of California fruit would affect 1 percent of the 1.4 million Californians who earn their living on the farm, Siebert said.

The losses potentially could include all 700 full-time jobs in the citrus industry in Riverside County,

**BATTLING
THE
MEDFLY**



including seasonal workers, said Gary Foster, Riverside County deputy agricultural commissioner.

Riverside County has 17,000 agriculture jobs, said Connie Lau, spokeswoman for the state Employment Development Department in Los Angeles.

"We're talking about pulling the plug on one of our major industries in this state," said Riverside County Farm Bureau Executive Manager Bob Perkins. "We've already pulled the plug on defense."

Riverside County, which produces \$1 billion worth of farm products annually, would be one of California's hardest hit counties, Perkins said.

No citrus industry

Foster said a boycott initiated by Japan would trim citrus and avocado sales by \$11 million in the Corona area alone and about \$150 million countywide. Foster said both numbers represent more than half of the income to citrus farmers in the county because growers export to the Pacific Rim well more than half of their fruit.

"It would cause a shutdown of the citrus industry in Riverside County," Foster said.

Charles Colladay, general manager of Foothill Properties in Corona, said his company would "go out of business overnight." Foothill employs 85 people, raising lemons, white grapefruit, Valencia oranges, navel oranges and avocados on more than 2,000 acres in southern Corona and the Temescal Canyon.

John Powell, owner of Peter Rabbit Farms in Coachella, said a boycott could wipe him out, too.

"I don't know where I'd go," Powell said. "I think the fruit would stay on the trees and not get picked."

Colladay said, "The real problem is if Japan goes, other countries go. It's a domino effect."

If Japan were to boycott fruit from the state, or say Southern California, at the least Korea, Taiwan and Hong Kong would be expected to follow Japan's lead, Siebert said. Singapore and Malaysia could join the ban as well.

A spreading boycott

And it wouldn't just be an international boycott, state and county agriculture officials say. They say Arizona, Texas and Florida at the least — states which have their own citrus crops to protect — would follow suit.

"You can go out and protest the minutiae of malathion coming down, and win, and find your husband or wife out of work the next day," said John Gless, owner of Gless Ranch and Riverside County Farm Bureau's president. "I tell you, if this gets out of control, we're through."

Japan particularly is concerned about its own tangerine and mandarin orange crops, said Akihiko Nishiyama, spokesman for the Japanese consulate general in Los Angeles.

The Medfly is "a very destructive pest," Nishiyama said. "In the worst-case situation, an entire har-

vest could be lost from the Medfly. And there are no Medflies in Japan."

Ralph Iwamoto Jr., area director for the Animal and Plant Health Inspection Service office of the U.S. Department of Agriculture in Tokyo, in a letter last month to a top U.S. official in Washington said the Japanese were alarmed by the Corona fly find Dec. 17. Unlike previous discoveries during the past year in Southern California, this one was a few miles from commercial production areas.

Nishiyama noted that Japan halted California imports once before, in 1980, following discoveries of flies in San Jose and Los Angeles.

Bob Krauter, spokesman for the California Farm Bureau Federation in Sacramento, said that embargo cost California about \$100 million.

As for malathion . . .

Carl DeWing, spokesman for the state Department of Food and Agriculture in Sacramento, said malathion is considered the most efficient and fastest manner to eradicate the Medfly. It takes only about six months with the chemical and about two years with flies, which halt reproduction.

Bob Dowell, primary state entomologist in Sacramento, said malathion has been used more than four decades to kill Medflies, mosquitoes and other pests.

Like DDT, malathion is an organophosphate and was developed in the 1940s, Dowell said. But he

said, unlike DDT, malathion does not accumulate in the food chain. Humans and other mammals have enzymes that break the material down and discard it from the body, he said.

During aerial sprayings over Corona, 12 ounces of fluid — 10.8 ounces of corn syrup and 1.2 ounces of malathion — are spread over each acre, Dowell said. He said that is about equal to 1/100 of the level at which an adverse effect is observed. And the only confirmed adverse effect at high levels is a skin rash.

Dowell said malathion has been an active ingredient in the recent past in shampoos for controlling head lice and still is used in animal dips to control fleas, ticks and lice.

State officials say the dosage in aerial spraying is so minute that it is more difficult to detect than a mist. Several Corona residents said they could not feel or see anything coming down when helicopters passed over them on Tuesday night.

"I'm bald and I couldn't even feel the spray coming down," said John Knaack, a Corona resident who is the vice president of field operations for the Blue Banner packing house in Riverside.

Staff writer Joe Gutierrez contributed to this story.



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May 2, 1994

Congressman Charles Stenholm, Chairman
 Subcommittee on Department Operations and Nutrition
 Committee on Agriculture
 1301 Longworth House Building
 Washington, DC 20515

Congressman Stenholm:

RE: MEDFLY ERADICATION PROGRAM IN CALIFORNIA

As a member of the Riverside County Board of Supervisors, representing the cities of Corona and Norco, I am well aware of the program and wish to thank you for the opportunity to provide written comment. Specifically, I would like to comment regarding initiation of the program, as well as, the ongoing program.

First of all, the process utilized by the California Department of Agriculture (CDFA) and the United States Department of Agriculture (USDA) to initiate the program was appalling from a community relationship standpoint. Just two months prior to the aerial bait application, Secretary Voss of CDFA, in a press interview, had assured the Southern California public that no aerial bait application would be necessary. Then, when the program was initiated, CDFA and USDA gave very short notice to local City Councils and members of the County Board of Supervisors: in fact, many local officials first became aware of the plan to initiate the aerial application by reading about it in the newspaper. This insensitivity to local officials--who have born the brunt of public concern and comment about the program--was inexcusable.

The second issue that I wish to bring to your attention is the "justification" for aerial application. I do not feel that the CDFA and USDA have given adequate rationale for aerial application. One mated female fly was found on December 17, 1993; no subsequent medflies were found. Yet, aerial application commenced on February 15, 1994. I do not believe adequate research was conducted to clearly demonstrate infestation in the Corona/Norco area prior to the decision to initiate the aerial application

Subcommittee on Department Operations & Nutrition
Re: Medfly Eradication Program in California
May 2, 1994

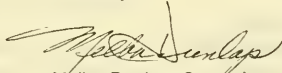
of malathion. In addition, I have never been satisfied with the CDFA and USDA discussions regarding the availability of sterile medflies. Their comments have been, at best, inconsistent and even contradictory regarding the quantity of sterile medflies available, and their decision as to which areas would most benefit from the use of sterile flies.

The final issue that I wish to comment on is related to the health effects of malathion. The CDFA and USDA have consistently down played the potential health effects of aerial application. Although their officials have admitted the possibility of health effects such as allergic reactions, skin irritation and/or excess cholinergic tone effects, they have consistently stated that they did not believe anyone would actually be affected. In fact, our local health department has logged over 100 calls from individuals who believe they have had a specific symptom or illness related to the aerial application. After further investigation, between five and ten cases are being referred for additional evaluation since their illness is believed to be due to malathion and/or diluent exposure.

I respectfully urge your Subcommittee to carefully evaluate the need for further aerial bait application in Corona/Norco. I would also appreciate your review of the process used to implement the program in Corona/Norco since I believe it was very poorly handled.

Thank you again for the opportunity to provide written testimony to the Subcommittee.

Sincerely,



Melba Dunlap, Supervisor
Second District

**BEFORE THE HOUSE AGRICULTURE COMMITTEE
SUBCOMMITTEE ON DEPARTMENT OPERATIONS AND NUTRITION**

FRUIT FLY ERADICATION

STATEMENT BY THE CALIFORNIA AVOCADO COMMISSION

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Submitted: May 5, 1994

BEFORE THE HOUSE AGRICULTURE COMMITTEE
SUBCOMMITTEE ON DEPARTMENT OPERATIONS AND NUTRITION

FRUIT FLY ERADICATION

STATEMENT BY THE CALIFORNIA AVOCADO COMMISSION

Mr. Chairman, Members of the Subcommittee. I am Mark Affleck, President of the California Avocado Commission. The Commission is organized under California state law and represents the state's approximately 6,000 avocado growers, who produce about 95% of the avocados grown commercially in the U.S. The Commission is broadly responsible for increasing grower returns by conducting advertising, promotion and public relations of California avocados and engaging in industry-related activities that help create a better marketing environment for California avocados. As part of this responsibility, the Commission works actively on a range of regulatory issues such as phytosanitary and quarantine issues which impact California growers.

Our industry has a vital interest in state and Federal government policies affecting control and eradication of exotic pests and plant diseases that pose a threat to California's highly vulnerable agriculture, including avocados.

Last year, the California avocado industry produced nearly 570 million pounds of fruit valued at \$ 113 million including export sales of more than \$ 14 million. California avocado production and marketing is responsible for some 20,000 jobs in the U.S.

Japan and Hong Kong are targeted as primary Pacific Rim markets for California Avocados offering excellent prospects for continued value and volume growth in export sales. However, this positive prospect would be dealt a serious if not fatal blow should the Medfly eradication effort be terminated. Earlier this year, following the detection of a mated female medfly in Corona, California, Japan's Ministry of Agriculture threatened to impose a quarantine on California commodities and an embargo on all medfly host material produced in California, including avocados. Clearly this would be a great setback for our industry and an estimated loss of \$ 300

million for California's economy. No doubt other Asian countries would quickly follow Japan's quarantine policy. We must maintain the confidence of our trading partners that we are committed and continue to strive for eradication of the Medfly pest.

California's 6,000 avocado growers are small farmers unable to sustain and survive the economic impact of infestation. Their crops are extremely vulnerable to plant pests like the Mediterranean fruit fly, Ceratitis capitata (Wiedemann) as well as other species of fruit fly including Anastrepha ludens, A. serpentina, A. striata, commonly infesting Mexican avocados, and the melon fly, Dacus cucurbitae (Coq.) and Oriental fruit fly, Bactrocera dorsalis (Hendel) (Syn. Dacus dorsalis) all of which suffer documented infestation upon Hawaiian fruit cultivation areas.

As USDA's Animal Plant Health Inspection Service (APHIS) noted in the Federal Register, March 10, 1994, (Vol 59, No. 47, pg. 11177) as interim rule designating additional quarantine areas of Southern California for eradication efforts:

The Mediterranean fruit fly, Ceratitis capitata (Wiedemann), is one of the world's most destructive pests of numerous fruits and vegetables. The Mediterranean fruit fly (Med fly) can cause serious economic losses. Heavy infestations can cause complete loss of crops, and losses of 25 to 50 percent are not uncommon . . .

A matter of immediate concern to the California Avocado Commission is any action by our government to modify the USDA's 80 year quarantine of fresh avocados from Mexico. As Mexico continues to press USDA and USTR for market access for its fresh avocados, pest and plant disease problems continue unabated in their growing areas. APHIS confirmed last year that Mexican Hass avocados are hosts to 34 destructive pests including the three species of fruit fly previously identified. Officially sanctioned importation of pest-plagued commodities, like the Mexican Hass avocado, would assuredly exacerbate the problem of exotic pest eradication. In this case, continuation of a well-founded preventative quarantine policy is preferable and complimentary to ongoing pest eradication efforts in California.

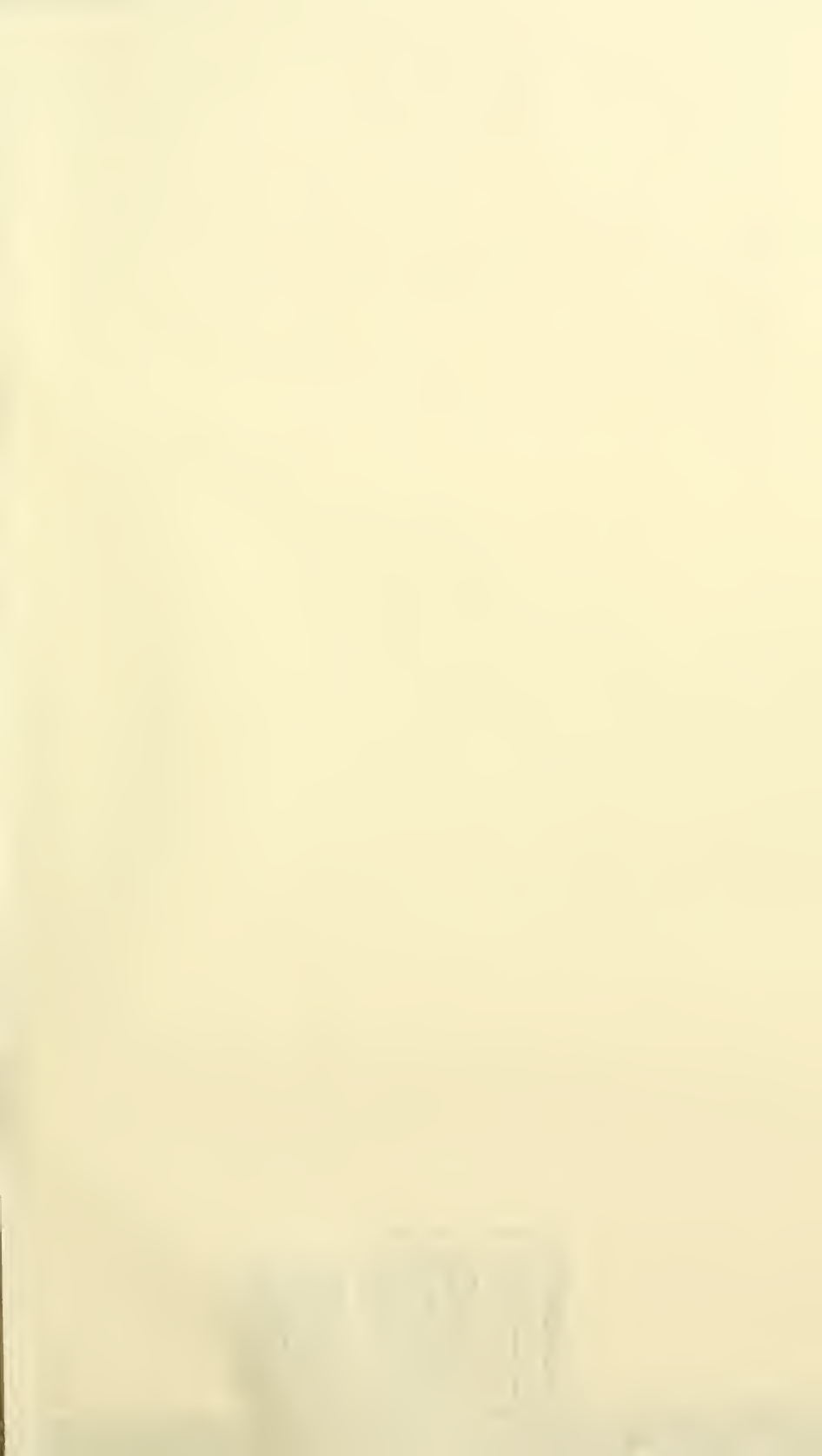
Since 1975, the State of California together with the Federal government has expended more than \$ 217 million combating through various means periodic outbreaks of infestation of this exotic pest in our vulnerable agricultural areas and adjacent communities. Continuation of this eradication effort is vital. The alternative to simply accept habitation of these periodically introduced pests would devastate our industry as well as other vulnerable crops like citrus, stonefruit, grapes, tomatoes, cherries, among others, not only in California but in other warmer climate agricultural areas like Arizona, Texas, and Florida.

I am pleased to note that our growers use very few pesticides. If we simply accepted the habitation of these exotic pests, like the Mediterranean fruit fly in our midst, we, like our counterpart growers in Mexico would be forced to use extensive pesticides with as many as 12 applications per year not to eradicate but simply seeking a limited control of the pests. Certainly this alternative is unacceptable economically and environmentally. We must continue eradication efforts begun in 1975 that have proven effective in preventing permanent habitation of these pests.

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